

# ATHLETIC JOURNAL

Vol. XXVIII, No. 6

February, 1948



## Relay Racing

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John A. Grayson

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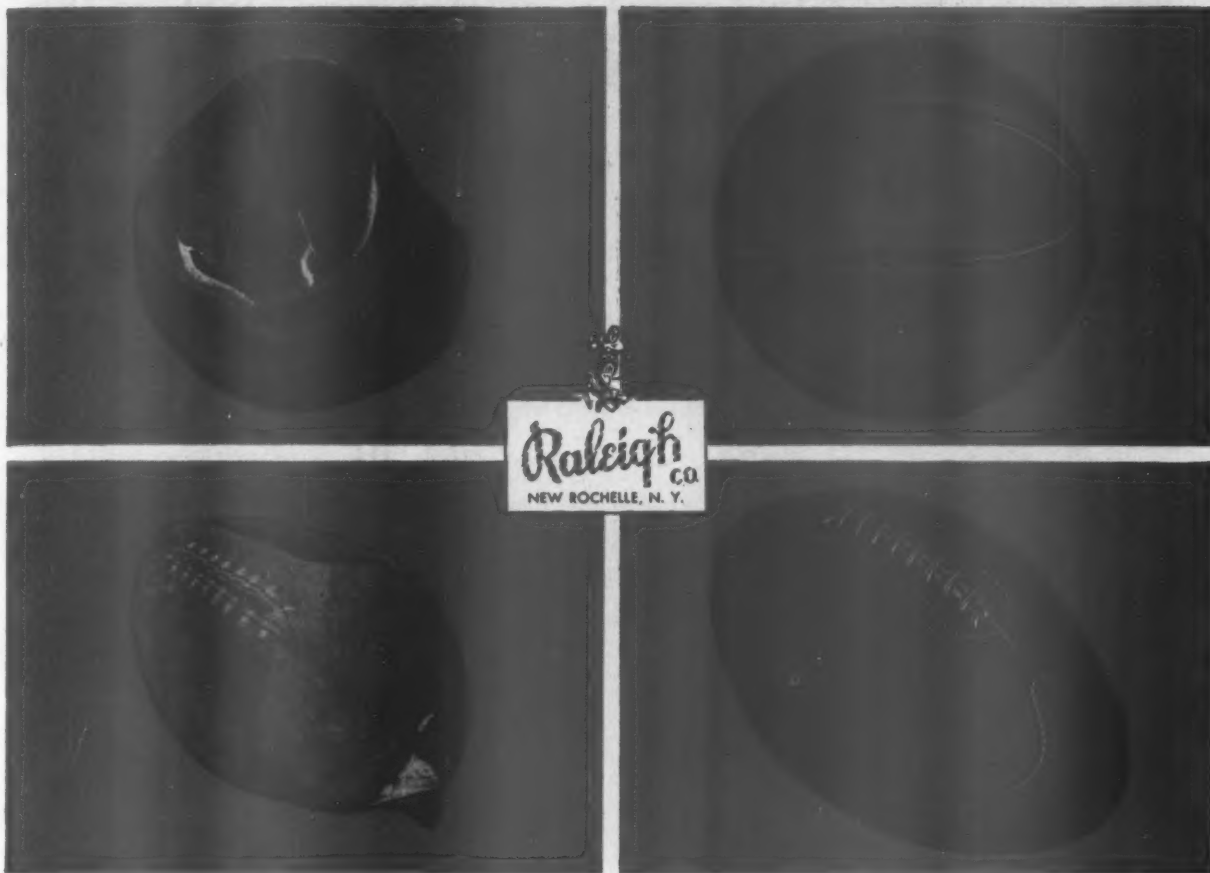
### FRONT COVER ILLUSTRATION

Chicago: Roosevelt High School players Gerald Rosenbond (5) and Arnold Robbins (3) were unable to stop this pass as Don Freitag (19) of Lane Technical High leaped up on a pivot play. (Credit, Acme.)



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A-30

# from here and there



**M**ORE and more high school coaches are attending the football coaches' meetings each year. There was a time when only a very few high school coaches were in attendance. . . . New Trier High School of Winnetka, Illinois and Highland Park, Illinois, High School pay the expenses for their football coaches to attend the annual meetings. . . . With the meetings scheduled for the West Coast next year, many California coaches will have an opportunity to attend. . . . Gust Zarnas, the former all-American at Ohio State, is line coach and wrestling coach at Easton, Pennsylvania, High School. . . . Power Memorial Academy of New York City will abandon football next season due to the lack of a home field. . . . Ward Cuff, former Marquette and Green Bay Packer star, will be the new football and track coach at Wisconsin Central Catholic High School at Green Bay. . . . Bill Barclay, Harvard's basketball and golf coach, will also serve as professional at one of the country's prettiest and toughest golf courses, the Salem, Massachusetts, Country Club. Aside to Bill—they've got some awfully sharp cribbage players at Salem Country Club.

**M**AX GARRET, fencing coach at the University of Illinois is holding a clinic on fencing at the Illini institution on February 27 and 28. It is Garret's hope that fencing can become as popular in the Middle West as it is in the East. . . . The Cow Palace in San Francisco may soon rival Madison Square Garden as a site for college basketball. At present there are over 12,000 seats with room for 20,000 if needed. . . . Although the one-hand shot in basketball has become exceedingly common, there are those who strenuously object to it being used by their teams. Adolph Rupp, the wizard of the Blue Grass, is one of those who stands ready to denounce the one-hand shot at every opportunity. . . . Pi Beta Phi, in addition to being a college sorority, is also a high school that will compete in the coming Tennessee basketball tournament. . . . Reeves Peters, who has been handling the officials for the Big Seven Conference in addition to coaching Northeast High School in Kansas City, will now devote all of his time to the conference work. . . . The Bruce family has the fencing situation well in hand at the Uni-

versity of Detroit. Jerry Bruce is coach and captain, while brother John and cousin Art are members of the squad. . . . Minnesota superintendents expressed favor in an A and B basketball tournament by a 52.3 percentage. Thirty-six and six tenths per cent were opposed to the plan. Among the coaches 53.9 per cent were in favor and 26 per cent were opposed.

**M**ICHIGAN and Illinois are locked in a close race for championships in the Big Nine. Since 1910 and up to last September, Michigan has won 86 championships and shared 17 more. Illinois has won 83 and shared 15. This fall Michigan won the football and Illinois kept pace with the cross-country championship. . . . Hodges West leaves his job as line coach at The Citadel for a similar position at Tennessee. . . . Mike Gaddis moves into collegiate ranks when he takes over the football duties at the University of Tampa. He leaves behind him a highly successful coaching record at Jesuit High School in Tampa. Gaddis starred for Colgate in both basketball and football. . . . Of interest to schools sponsoring handball will be the free offer of handball score sheets suitable for keeping records of both singles and doubles tournaments. These may be secured by writing the Seamless Rubber Company, New Haven, Connecticut, marked for the attention of the Advertising Department. . . . In 1936 the Associated Press first started a poll to determine the nation's best football teams. Since that time 57 different teams have appeared in the possible 120 first ten positions. Notre Dame and Michigan lead, as they did this year. Allowing ten points for first, nine for second, etc., Notre Dame has 57 points as against Michigan's 47. Notre Dame has been represented among the first ten for all but two years. Michigan failed to be mentioned four times. Minnesota has been picked as number one team more times than any other school, being so chosen three times. Independent schools totaled 183 points over the twelve seasons; the Big Nine totaled 145 with the Southwest Conference next with 88 points. By sections of the country, the Middle West, with the aid of Notre Dame, and the Big Seven Conference, except Oklahoma and Colorado, (Continued on page 59)

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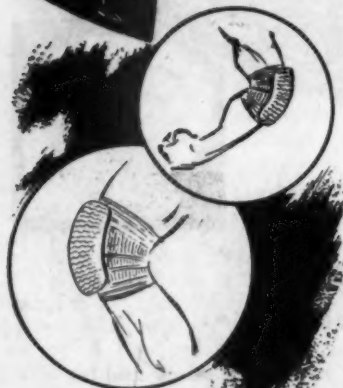
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**THE BEST TEAMS ARE BEST EQUIPPED!**

# Olympic Champions in the Pole Vault

By Frank Hill

Track Coach, Northwestern University

THE Olympic Games provide a show case for world-wide display of improvements in form, technique, training methods, and equipment. Perhaps no athletic event has had more benefit from these improvements from one four-year period to the next than the pole vault. In the "tenth year" revival of the games in Athens in 1906, Jean F. Gouder of France introduced the bamboo pole in scoring his victory, this being the only time that a United States vaulter has not won the coveted honor. The advantage of the bamboo stick over the heavier and less springy spruce was immediately apparent and its adoption as a vaulting aid became universal.

Between the 1924 winning effort of Lee Barnes at twelve feet, eleven and one-half inches and Sabin Carr's 1928 mark of thirteen feet, nine and one-half inches, came the innovation of the standard vaulting box to replace the "hole in the mud" target for the planting of the pole. The confidence that comes to the vaulter who is assured of a firm base as he throws his weight onto the pole adds greatly to his efficiency; the records bear this out. In order to qualify for the finals at Berlin in 1936, contestants were required to clear 3.80 meters (12' 5½"), the height at which Frank Foss won the title in 1920, and there were seventeen qualifiers. It is difficult to estimate the number of vaulters in the United States today who can exceed that 1920 mark but there is little doubt it runs well into the hundreds, perhaps thousands, while the representatives of this country on the 1948 team will in all probability boast personal records fully two feet better than that.

It is a matter of deep regret that the vaulting genius of all time, Cornelius Warmerdam, will not be eligible to compete in the coming games. His world record exceeds the Olympic mark by one foot, five inches.

No Olympic champion in the vault has been able to repeat his victory. The lapse of time between games, the constant and fast-moving improvements in techniques, and the keen competition are factors that have heretofore constituted an insurmountable barrier. The present champion, Earle Meadows, may be the first to defend his title successfully despite the twelve years that will have intervened between Berlin and London. Last spring in the Los Angeles Relays, he cleared four-

teen feet, three inches, approximately his winning mark in 1936. This mark was achieved after the most grueling Olympic vaulting contest in history, one that started at ten in the morning, persisted through several cold rainstorms, and finally was concluded under the floodlights of the stadium at about eight-thirty in the evening. It is conceivable that this great "journeyman" master of the vault, who punctuated his military duty in the Orient by setting a record of fourteen feet for China, will lift himself over the bar to the "highest" honor in Olympic competition.

In looking back over the records we are apt to underestimate the marks made by the early pioneers in this event. Let us not forget that we have made progress because of their efforts and the know-how they have passed on to us. We are, as we look down upon them, standing on their shoulders, so to speak. In his day, each was a real champion. What it took, he had; and what he had has become part of our athletic heritage to preserve, improve, and, in our turn, pass on to those who come after, so that they, too, in their turn may look at our work and wonder what detained us. So, with a low bow and the hope that the laurel wreaths that adorned their brows on that—for them—day of days may ever remain green in our memories, may I present the Olympic Champions in the pole vault and their winning records?

1896	W. W. Hoyt, USA	10 ft. 9¾ in.
1900	I. K. Baxter USA	10 ft. 9⅞ in.
1904	C. E. Dvorak, USA	11 ft. 6 in.
1906	F. Gouder, France	11 ft. 6 in.
1908	{A. C. Gilbert, USA}	12 ft. 2 in.
	{E. T. Cook, Jr., USA}	
1912	H. J. Babcock, USA	12 ft. 11½ in.
1920	F. K. Foss, USA	13 ft. 5 in.
1924	{L. S. Barnes, USA}	12 ft. 11½ in.
	{Glen Graham, USA}	
1928	Sabin W. Carr, USA	13 ft. 9½ in.
1932	William Miller, USA	14 ft. 1⅞ in.
1936	Earle Meadows, USA	14 ft. 3¾ in.

**NOW** in his twenty-seventh year as track coach at Northwestern University, Frank Hill has coached such vaulters as Bill Droegemueller, who finished second in the 1928 Olympic meet with a mark of 14 feet, and Tommy Warne, Ed Thistlethwaite and Bill Moore, all who have vaulted 14 feet.





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# RELAY RACING

By G. T. Bresnahan

Track Coach, University of Iowa



The three baton exchanges shown in this article are of the world record 1600-meter relay team. (Time: 3:08.2.) This picture shows the exchange from the third to the fourth member of the team—Warner to Carr. The extension of arms by each athlete has saved running distance. Excellent body balance is portrayed by both athletes. Credit: Official Photographer, Olympic Games.

**R**ELAY racing, an event in which two or more men run a specific distance, one relieving the other at some designated point, has long been popular with both the contestant and the spectator.

The distance which each individual runs, as well as the total length of the contest, varies greatly. The total distance run may be as short as 200 yards and as long as the distance from Athens to Berlin. In 1936 the Olympic torch was lighted at Athens and handed on to successive athletes each of whom ran approximately a half mile. The objective was to keep the flame alive and time the progress of the transfer so that it might be used to ignite the ceremonial flame at the Olympic Stadium on the day of the opening of the games.

No doubt the transfer of messages by courier is as old as man. In World War I some communications were kept open by this method.

Inter-city relay races at one time or another have attracted attention, and we recall reports of contests such as those run between Rockford and Freeport and Sterling and Dixon in Illinois. These events and many others of a similar nature have been obliged to suspend operation

chiefly because of the paved roads and motor traffic.

In the United States the successful staging of the outdoor gatherings, such as those conducted at the University of Pennsylvania, Drake University, University of Texas, Kansas University, Fresno State College, the Los Angeles Relays and many other meets, attest to the public appeal.

Indoors the University of Illinois, Purdue University, Illinois Tech and Colorado University have promoted interesting and well-supported contests.

It is interesting to note the age range of the contestants. The Drake Relays, founded in 1910 by the late Major John L. Griffith, fortunately include contests scaled to the level of high school, junior high school, and grade school youngsters. During the war years additional events were provided for men enlisted in the armed forces.

## Baton Passing Rules

Until a quarter of a century ago the passer merely touched the hand of the receiver in the zone of change. Because this method brought on difficulties in officiating, the baton was required as evi-

dence that the proper contact had been made. For some years the twenty-yard zone of change was defined by lines ten yards on either side of the "start-finish" line.

The addition of the baton exchange has furnished a hazard to the relay race through increasing the skill and deftness required in this spectacular event.

The baton, as described in the rules, was at one time constructed of wood, but now officials accept an implement made of cardboard or paper providing it conforms to the specifications for weight and dimension.

## Types of Relay Events

For high school competitors there are races at four commonly accepted distances run on the flat. These are, with the best performance to date, as follows:

- 440 yards (4x110)—42.4—Glendale, Calif. H.S.—1928
- 880 yards (4x220)—1:28.2—L. A. Polytechnic H.S.—1931
- 1 mile (4x440)—3:21.4—Hollywood, Calif. H.S.—1929





2. The passer has maintained good body balance. Has completed the pass by laying the baton on top of the outstretched right hand of the third runner. The receiver is swinging the baton forward on his first full stride and will grasp it in the left hand.



3. Note the arm extended of both the passer and the receiver. The distance saved is indicated by the position of the feet on the ground. This pass is made at shoulder height. The receiver keeps the eye on the baton until it is in his hand.

2 mile (4x880)—8:55—Des Moines, Ia., Roosevelt—1938

In some sections of the United States the medley is established at one mile (220, 220, 440, 880 yds.).

For college competition the customary relay events are the following, also given is the best performance to date:

440 yds. (4x110)—40.5—Univ. of Iowa-Kansas Relays—1935

440 yds. (4x110)—40.5—Univ. of South. Calif.-West Coast Relays—1938

880 yds. (4x220)—1:25—Stanford Univ.-West Coast Relays—1937

1 mile (4x440)—3:9.4—U. of California-Big 10 vs. Pac. Coast—1941

2 mile (4x880)—7:34.5—U. of California-L.A. Relays—1941

Medley Sprint, 1 mile (440, 220, 220, 880)—3:23—U. of Oklahoma-Drake Relays—1942

Medley Distance, 2½ miles (¼, ½, ¾, 1 mile)—9:59.4—North Texas State Teachers-Penn Relays—1940

Shuttle hurdle relay races have been added to contests for both high school and college competition. The distance of the race and the height of the hurdles employed vary greatly in different sections of the country. The college shuttle relay event, however, is competed at 4x120 yards over the 42-inch barrier. It is of interest to note the best recorded college performance in the 480-yard shuttle hurdle relay is 58.6 seconds by the University of Texas made in 1940 at the Princeton Invitation Meet.

### Technique of Baton Passing

On the basis of the position of the head and eyes, there are two commonly accepted methods of passing the baton. In one, the awaiting receiver keeps the eyes focused on the baton in the hand of the passer until the transfer is made. This is described as the *visual pass*. In the second method, the awaiting receiver keeps the eyes focused on the passer until the latter reaches a designated spot or target

**G**EORGE BRESNAHAN received his early track training under Tom Jones and has done most of his coaching at the University of Iowa where he has produced a number of champions. In the 1932 Olympics he was in charge of the 1600-meter relay team. He is co-author with W. W. Tuttle of the famous "Track and Field Athletics."

on the track about six and one-half yards away. Instantaneously the receiver turns the head and eyes to the front and starts running. This is described as the *non-visual pass*.

### Non-visual Pass

The question arises, When will a team utilize the visual pass? The visual method of passing is suitable to all relay races, but is more commonly employed in the longer distance where the degree of fatigue of the oncoming runner must be gauged accurately. It is customary, in contests where an athlete runs a leg of a relay which is 300 yards or more, for the receiver to watch the passer, evaluate his speed, and keep the extended baton in his vision until it is within his grasp. In the meantime the receiver gets in motion so that he is underway when the exchange occurs.

Which method provides the greater degree of safety? The visual method is considered by many coaches to be safer than the non-visual method because both the runner and the baton are in the receiver's line of vision until, and during, the critical moment of the transfer.

Which method of baton passing permits the faster exchange? The visual method does not permit the speedy exchange offered by the non-visual method because the receiver cannot gain top speed when the head, eyes and trunk are turned sideward and backward.

In what relay races will a coach employ the non-visual exchange? The non-visual method is invariably used in all sprint relays (200 to 880 yards) and in those sections of medley relays in which the passer runs a distance of 300 yards or less. Many coaches believe that insurance against an inaccurate pass must give way to speed in the shorter relays. These coaches may tell the boys to pass the baton with reckless abandon to avoid tension.

The next problem of the coach, after he has decided on the visual or non-visual pass, is the style of arm-hand position. There is a divergence of opinion among track coaches on the most desirable way of having the passer and receiver use their hands. In football, we are aware of the pet offensive formation of one coach as against a different offensive used by another coach. Both coaches have creditable records. The same applies to track coaches when arm-hand coaching points are discussed.

American Olympic 400-meter sprint relay teams have successfully (39.8 seconds) used one plan; the University of Iowa (40.5 seconds for the 440-yard relay) another method; and the University of Southern California (40.5 seconds for the 440-yard relay) a third method.

The coach considers the athletic talent available and its ability to absorb the coaching technique of any given method.

Briefly, here are the commonly accepted plans:

1. The receiver places the right elbow bowed outward with the finger tips touching the right hip. The passer, having the baton in the left hand, aims for the loop so made.

2. The receiver fully extends his right arm to the rear. The palm is up and the thumb points toward his body. The passer, having the baton in the left hand, swings the baton *downward* onto the outstretched palm.

3. The receiver fully extends his right

(Continued on page 56)





Illustration 1



Illustration 2

# The Swing's The Thing

By James Smilgoff  
Baseball Coach Taft High School, Chicago

**JAMES SMILGOFF** received his early training in baseball at Lane Technical High School, Chicago and at the University of Wisconsin. After playing professionally in the Mississippi Valley League, the Western League, Texas League and Eastern League he became farm talent instructor and scout for the Chicago Cubs. He has served as technical advisor for two movie shorts on baseball made by Coronet Instructional Films.

**M**OST faults in batting are found in the swing. This is due to the fact that a good swing is dependent upon many preceding techniques in the batting process. The type of swing often indicates whether or not proper techniques and fundamentals are being applied previous to the swing at the ball. A good swing is the result of properly applying the principles involved in good batting.

The swing itself is composed of many parts, which when isolated and analyzed, often reveal individual faults that may be corrected quickly and easily without too much alteration in one's batting style. These individual parts of the swing are herein analyzed.

## Make the Swing as Parallel to the Ground as Possible

The swing should be as level as possible so as to make the bat meet the ball squarely. In this way more line drives will result. Meeting the ball slightly above its line-drive level tends to deflect the ball downward. When the bat meets the ball underneath its line-drive level, a fly ball usually results.

Most batters encounter little difficulty in leveling off the bat on the shoulder-high and belt-high pitches. On the low pitch (knee-high) it is actually impossible to swing the bat parallel to the ground to meet the ball. On this type of pitch the batter must adjust his arms and body downward so as to be able to swing the bat as level as possible, at the same time

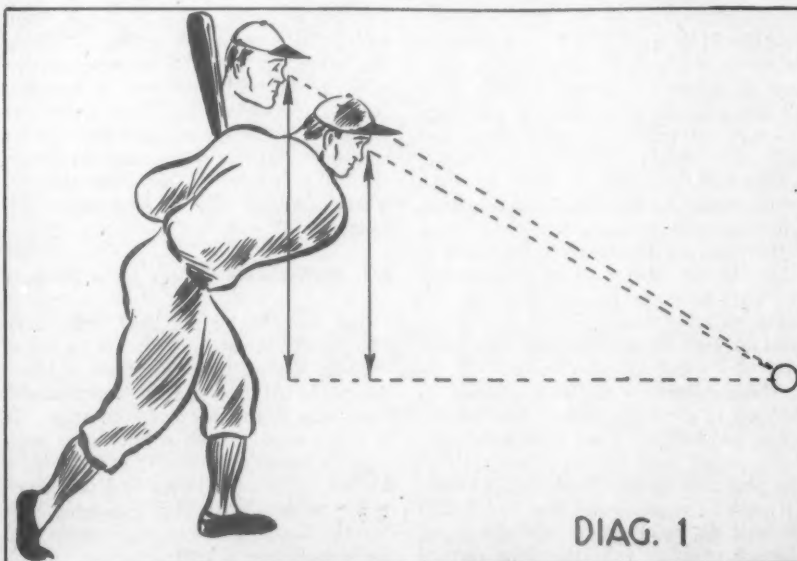
maintaining body balance and power behind the swing. This is done by lowering the arms immediately after the swing is started and as quickly as the low pitch is ascertained. At the time while the arms are being adjusted, there should be a slight downward dip of the body which helps adjust the angle of the bat in as level a position as possible to meet the ball squarely.

Batters who crouch at the plate usually have to make an upward adjustment for the high strike and a downward one for

the low strike. They handicap themselves in this way by having to make two body adjustments. By standing up fairly straight, only one adjustment, a downward one, need be made.

Dipping the body slightly on the low pitch not only helps to level off the swing but also tends to bring the batter's angle of vision closer to the ball (Diagram 1).

On the high strike little adjustment is



DIAG. 1



Illustration 3

needed between the line of vision and the ball. Here the visual angle is not very wide. On the knee-high strike, however, the angle of vision between the eyes and the ball is increased greatly.

The batter should guard against too much of a body dip. This leads to poor body balance and decreases body power behind the swing.

### **Do Not Swing Too Hard**

Swinging harder does not mean hitting farther. Timing the ball out in front of the plate and body balance are more important factors. Batters who concentrate on swinging hard are flirting with batting faults. A batter should take a good cut at the ball but not too hard a swing. I believe that all batters should take an easy, natural swing during early season training (Illustration 1). Early season drill should be given over to concentration on accuracy of swing, timing, and application of proper batting techniques. After all faults have been eliminated and body balance and timing are good, then, and only then, should the batter start taking a harder swing at the ball. How hard the swing should be is an individual matter. The danger lies in taking too hard a swing rather than a natural, easy swing. Batters who take too hard a swing tend to pull the body on every pitch. They also develop poor body balance and timing and tend to turn their heads and take their eyes off the ball too soon.

These dangerous faults, if allowed to develop in the early spring, tend to develop into habits. Thus, these habits become rooted into the batter's actions at the plate and become fixed as bad habits. It must be remembered that bad habits as well as good habits are developed through practice. It is, therefore, deemed

wiser in the early season to lessen the extent and strength of the swing and work on accuracy of batting fundamentals so as to establish good habits at the root. Later a harder swing may be taken when batting accuracy is mastered. In following this method less time will have to be spent on correcting faults and more time will be available for rooting in good habits more firmly.

Batters who swing too hard try to get too much body weight and power into their cut at the ball. They tend to throw their bodies into the ball by lunging, thus overbalancing body weight and power to the extent of making it ineffective. *A hard swing is only effective when it is controlled and properly timed (Illustration 2).*

### **The Bat Should Meet the Ball out in Front of the Plate on the Swing**

When the bat meets the ball opposite the body (over or behind the plate) the batter's swing leverage is reduced so as to cut down the power behind the swing. When this occurs there is poor body balance on the part of the batter because his weight is too far back and is not transferred forward properly into the pitch. This results in little body weight behind the swing and there is a poor follow-through. A late swing is always followed by a poor follow-through because a good follow-through is the natural continuation of a correct swing. When the bat meets the ball out in front of the plate the batter has proper timing, good body balance and power in his swing (Illustration 3).

### **The Bat Should Be Ready to Start Forward When the Ball Leaves the Pitcher's Hand**

Eliminate all extra and superfluous movements with the bat while in the ready position to swing. One of the common faults of young batters is that of waving the bat around in a threatening motion while in the ready position. A bat that is being moved in a backward or circular motion is not ready to start forward for split-second timing so necessary in hitting the ball correctly. *Hold the bat still and steady while in the ready position (Illustration 4).*

### **Use Preliminary Swings for a Purpose**

Too many batters use their preliminary swings as a threatening gesture to try to frighten the pitcher. This type of hitter waves the bat back and forth menacingly, sometimes to the point of exhaustion. It is not unusual to see a sand-lotter step into the batter's box and vigorously swing his bat back and forth ten or fifteen times before each pitch. This is a good way for the batter to tense his muscles and tie himself into a knot.

Preliminary swings may, and should, be used to advantage. First, the batter should take only a few of these swings to relax. He should loosen up any muscular tenseness that exists. Second, all preliminary swings should be brought well forward so that the batter is practicing to meet the ball out in front of the plate. Third, preliminary swings should be made only in the strike zone. Frequently I have seen boys making their preliminary swings too high. This often leads to swinging at bad pitches above the strike zone. Fourth, the hitting surface of the bat should cover the plate. Many batters swing the bat too closely inside on their preliminary swings. Fifth, it is best to take preliminary swings about belt high. Some players take their preliminary swings either high or low, thus indicating their power and preference in pitches. Although this might be used as a decoy by smart hitters, many times it is not used with this intent. Sixth, preliminary swings should be taken only after the stance has been assumed and before the bat is placed in the ready position to start forward against the pitch. Seventh, a preliminary swing should never be taken after the pitcher starts his wind-up.

### **Put Wrist Action Into the Swing**

Wrist action on the swing should be practiced. It puts drive behind the bat as it meets the ball. Wrist action is obtained by gripping the bat more tightly just as the bat is coming forward to meet the ball. The maximum amount of wrist action is performed just prior to the impact between bat and ball and at the point of impact.

Actually, there should be a gradual increase of wrist action, starting from a minimum amount at the beginning of the swing and gradually increasing to a maximum at impact.

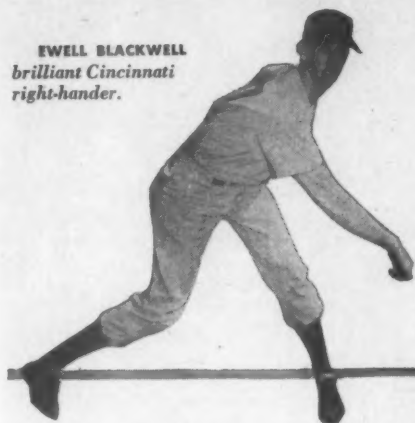
A slight natural backward motion of the bat should be allowed for at the start of the swing. This is called "cocking the wrists." At this point the wrists are fairly well relaxed and there is very slight wrist action. Stronger wrist action (tightening of the wrists) then helps to propel the bat forward quickly, once the swing-



Illustration 4

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Illustration 5.

ing action starts. This wrist action (contraction of the wrist muscles) then increases so as to throw the bat forward faster into the ball. This increased wrist action continues to its maximum at impact. The control and regulation of this wrist activity depend upon the batter's physical make-up and muscular co-ordination.

Through constant and purposeful practice the batter can co-ordinate this gradual increase in wrist action with proper timing to lend greater power to his efforts in hitting the ball.

#### *Use the Wrists to Adjust the Angle of the Bat at Impact*

The wrists should be used a little sooner on inside pitches, a little later on outside ones. The wrists should help co-ordinate the swing according to the pitch. Good wrist action helps control the bat just prior to, and at, the impact. This wrist control should be practiced so that the angle of the bat is controlled on all pitches. Batters who lack wrist control find that their timing of the swing at impact is not accurate. Batters who use the same wrist action on outside pitches as they do in pulling inside pitches will find themselves pulling the outside pitch. This often results in poor timing in hitting the outside pitch and is also the cause of hitting into double plays more frequently.

#### *The Arms Help Adjust the Swing on High and Low Pitches*

Most batters can adjust their arms more easily on the high strike than on the low one. This is due mainly to the fact that most hitters start their swings with their arms holding the bat fairly high. Thus, the arms only need to level off the bat in this high strike area.

On strikes that are waist high the batter need only make a slight downward adjustment with his arms so as to bring the bat down into a level position to meet the ball.

On low strikes around the batter's knees, a greater downward arm adjustment must

be made to avoid golfing the ball and to swing the bat in as level a position as possible. On this type of pitch the arms lower the bat quickly as soon as the low pitch is ascertained. In this way the bat is placed on more of a horizontal plane parallel to the ground. The rest of the body should also be bent or dipped downward on the low pitch (Illustration 5).

#### *Swing With a Free Arm Movement*

The swing should be started with the arms away from the body and they should be kept away from the body during the entire swing. Many hitters, from the sand-

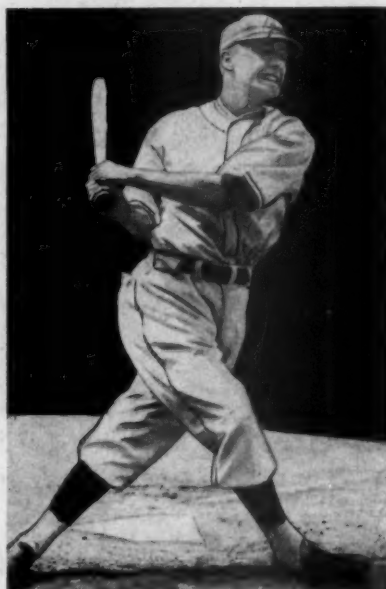


Illustration 6.

lots to the major leagues, could improve their hitting if they could swing with a free arm movement every time. Some hitters swing with this free, easy arm motion most of the time, but not always. I contend that no hitter swings with a free, easy arm motion every time. There is always room for improvement. Amateur baseball players are particularly in need of constant practice in taking a loose, free cut at the ball. Too often they start the swing with arms and elbows away from their bodies and then pull their arms in close to their bodies after starting the swing. Thus, when the bat meets the ball there is little or no power behind the swing since the arms are then in a tense, cramped position at impact. In proper swinging the arms should be kept away from the body, before, during, and at the finish of the swing. Failure to maintain the proper arm position during any phase of the swing tends to reduce batting efficiency.

#### *Throw the Bat Into the Ball on the Swing*

Good hitters practically throw the bat

into the ball on the swing. They do not push at the ball, but by using good wrist action and a loose, free arm motion they propel the bat forward with snap and speed. Maintaining a free arm motion helps throw the bat into the ball. Tense, cramped arm muscles slow down the swing and tend to push rather than throw or swing the bat into the ball.

#### *The Speed of the Swing Depends upon the Strength and Speed of the Wrists in Tightening at Impact*

Many adolescents are not good hitters because they do not possess good arm strength. This, however, may be overcome by constant practice in swinging a bat. It is also my contention that more adolescent hitters ought to shorten their grips so that they can handle the bat more easily and quickly and increase the speed of the swing through better arm and wrist control.

Shortening the grip on the bat tends to make the swinging end of the bat lighter and easier to handle. This is a method of adjusting the swinging weight of the bat to arm and wrist strength. In this way the batter can get greater speed into the swing.

#### *Hitting Inside, Outside, High or Low Pitches Demands Adjustment in Timing*

Good timing is the result of good eye-nerve-muscle co-ordination. It is the result of purposeful batting practice where-

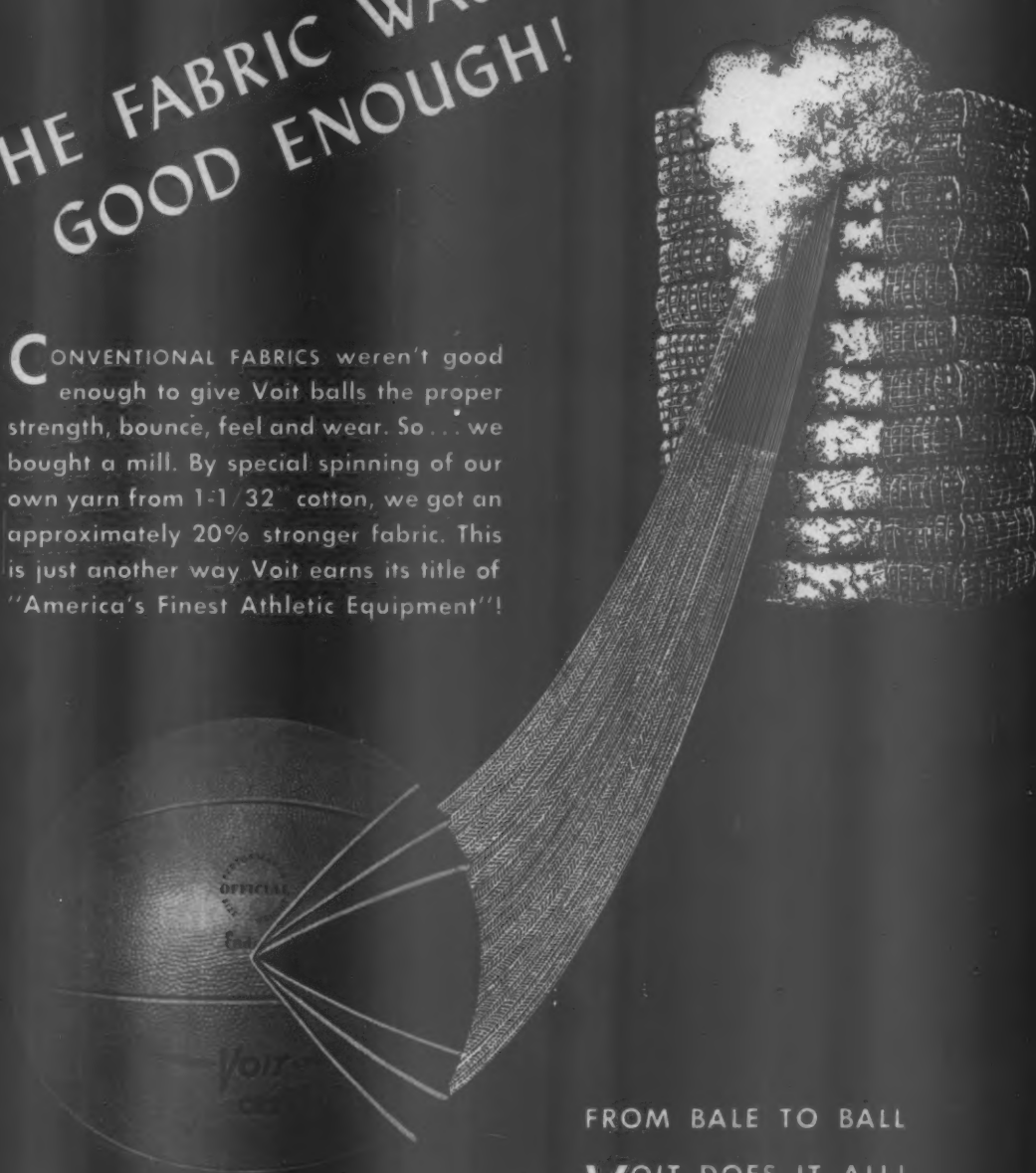


Illustration 7.



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Illustration 8.



Illustration 9.

by the batter concentrates on making every swing at the ball result in a line drive. It is the result of good body balance and good batting fundamentals. Good timing is a challenge in itself to the physical and mental co-ordination of the batter. It is a challenge to the alertness, aggressiveness, and ability of the batter to cope with the shrewdness of a pitcher who is mixing his pitches so as to keep the batter off balance and off on his timing. In good timing the bat meets the ball out in front of the plate on all pitches, a little more on inside pitches than on outside pitches.

#### **Keep the Shoulders Level on the Swing**

Dropping or raising either shoulder while swinging tends to create an uneven swing. A batter who drops his rear shoulder on the swing (this is a fairly common fault) tends to swing under the ball, thus lifting it into the air. One who drops his front shoulder during the swing tends to

chop at the ball, thus beating it into the ground.

Many batters start out with their shoulders level but create shoulder unevenness at some point during the stride or swing. Keeping the shoulders level helps create a level swing (Illustration 6).

#### **Do Not Drop the Hitting End of the Bat on the Swing**

Dropping the hitting end of the bat on the swing tends to make the bat hit under the ball. This usually indicates poor arm and wrist control in swinging the bat forward to hit. It sometimes indicates that the bat may be too heavy. A top-heavy bat, one that is over-balanced in weight toward the hitting end, might also cause this fault in hitting.

#### **Body Weight Shifts From the Rear to the Front Leg on the Swing**

The swing should be started with the

body weight over the rear leg. The weight accompanying the swing should actually be coming from the back leg to the front one as the ball is being hit. The bat meets the ball with the weight of the body slightly behind the swing at impact.

When the bat meets the ball before the weight is being transferred, that is, while it is still over the rear leg, the batter is said to swing late (behind the ball). Batters who transfer their body weight forward too soon often are guilty of swinging too soon, that is, they are meeting the ball too far out in front of the plate.

#### **Start the Swing High Enough**

When the swing is started high enough (at the highest point in the strike zone), the batter need only make a downward adjustment, and not an up-and-down one to level the bat off for the high strike. The bat is pointed upward at the start of the swing and back over the rear shoulder so

(Continued on page 61)

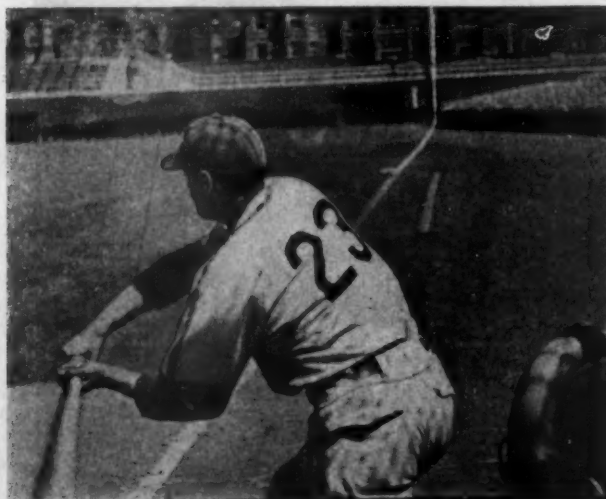


Illustration 10.



Illustration 11.

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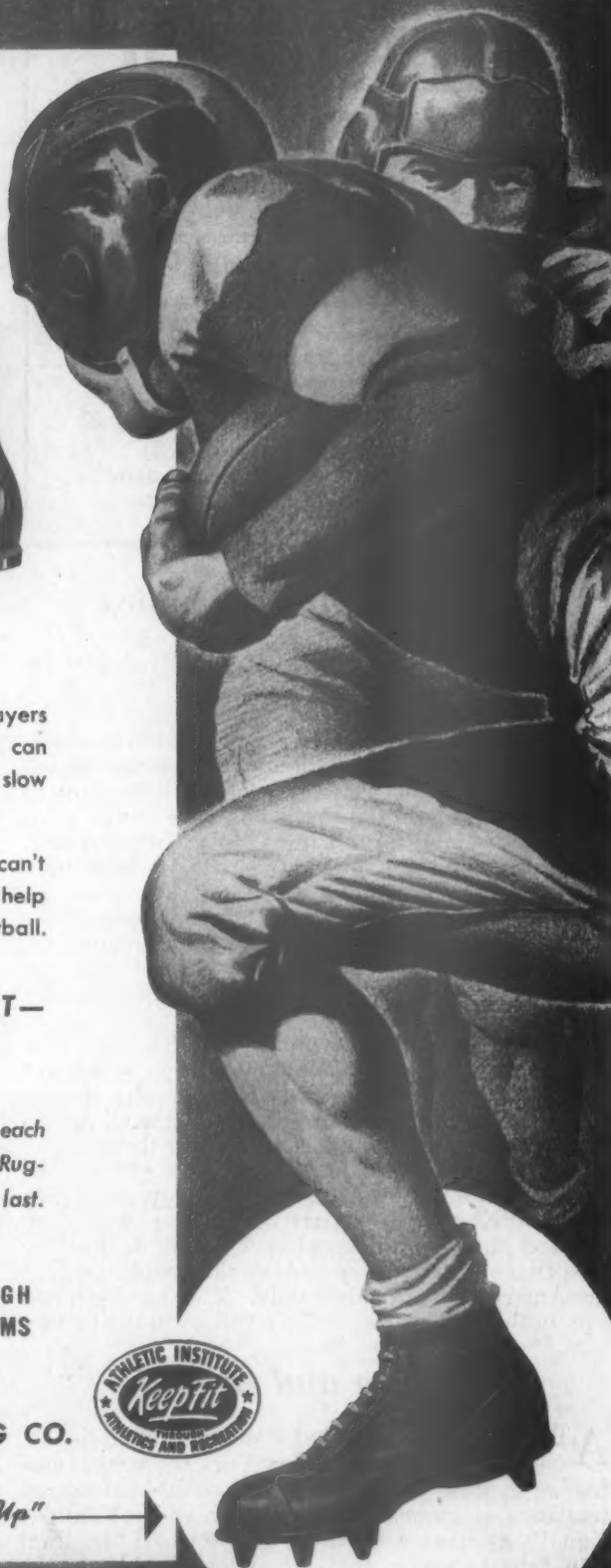


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# The ATHLETIC JOURNAL

Nation-Wide Amateur Athletics

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Publisher

## Financing the Olympics

AS IN the past, the United States Olympic Committee is charged with the responsibility of selecting and financing some twenty teams to the Games. A half million dollars is needed to send our teams to London this year and the committee believes that the sport-loving public will be glad to finance them again now as it has done in the past. Our athletes have been inspired by the direct popular backing of the public before and we hope they will be again.

Throughout the country local Olympic committees are being organized in more than 200 communities. These committees are representative of business and industry, the professions, schools, press, radio and government.

The United States Olympic Committee has just placed on sale Olympic Victory stamps which are available to the public. These non-revenue stamps will help finance our teams and we urge all sports lovers to give their support by buying them.

In many countries the governments are so convinced of the value of the Olympic movement that they contribute all or part of the money needed. We feel that it is in keeping with the democratic tradition of our country to have the people sponsor the American team voluntarily. This has been our way in the past and we believe will be in the future.

## Television and Athletics

AT THE recent National Collegiate Athletic Association meetings in New York there was some feeling expressed that television would hurt the attendance at games in the not too distant future. Equally as many with whom we discussed the situation felt, however, that television would, on the contrary, increase interest much the same as radio did. If we remember correctly similar fears were

expressed when radio first became a part of the sports picture. Since then untold sports fans have been created that prior to the advent of radio cared little about athletic contests. To many before radio, baseball was merely a box score and the standings. It made little difference to a resident of What Cheer, Iowa whether Chicago or Cincinnati was in first place. With the Chicago games broadcast throughout Iowa, and with local barber shops, gasoline stations and restaurants blaring forth the progress of the game, hundreds are brought into contact with that which to them did not previously exist. A check with the management of the Chicago Cubs will disclose the large amount of tickets sold to residents of the Hawkeye state when business or pleasure bring them to the Windy City.

Those on the other side of the fence feel that television and radio cannot be compared. They argue that the word picture will create a desire to be supplemented by the actual picture itself. Television, they reason, is the picture itself and instead of creating a desire to attend the game people will prefer to remain in the comfort of their own home and thus avoid the traffic jams and the vicissitudes of the weather.

Television is too young and as yet not widely enough adopted to ascertain which argument is correct. Television should be given a fair trial.

## A Case For the Olympics

THIS is 1948, an Olympic year, which means our sport pages will be filled with discussion of the impending games. Innumerable columns will be written questioning the wisdom of holding contests of this type. They will argue that many squabbles have developed in the preceding games, some of such a nature as to cause minor international crises. They will sum up their columns in this vein: As long as international differences have existed in the past they will exist again, and today when our friendship with the rest of the world means so much, wouldn't it be better to call the whole deal off rather than endanger our chances of losing some foreign countries' friendship?

Aren't those who write in this vein somewhat like the annual variety of grouchy columnists who attack football because of its bad qualities and fail to mention the good involved?

Aren't these same columnists overlooking the friendships that are formed among the contestants and above all aren't they overlooking the fact that the Olympics are based on competition? Competition is the antithesis of what the Communists preach. Numerous European countries are under the domination of the hammer and sickle, numerous others are in a last ditch stand to resist this barbarous oppression. Our State Department, through the Marshall Plan, is advocating fifteen billion dollars to aid these countries in resisting the agents of the Kremlin. The mere fact that the Olympics are being held has created interest in athletics and, as we have said before, athletics is competition and competition and Communism just don't mix.





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# Build Your Future Athletes By Maps On Your Grade School Playgrounds

By H. S. DeGroat

President, Connecticut Association of Health,  
Physical Education and Recreation, Newton, Connecticut

**T**HE future of potential high school athletes may be planned five or six years in advance. The sooner the third and fourth graders can catch a ball, throw a ball, bat a ball with a bat, paddle or racquet, the better athletes they will be when they reach high school.

Have them handle all kinds of balls while they are young. Turn your play area into an organized part of your program of physical education. It takes little time to plan the layout of the grade school areas. The returns in good ball-handlers and fundamental game skills are high.

Look over the exterior of the building to see if there is a blank wall that may be used for handball. Bring in a movie that shows the experts playing handball or arrange a trip to some place where there are some busy handball courts. Our youngsters saw handball *par excellence* outside the Yankee Stadium when in New York to see the Yankees play baseball. Since then handball has needed little promotion.

If you have space for one or more paddle tennis courts have your fifth and sixth graders learn the fundamentals of tennis, the scoring and many of its elementary skills.

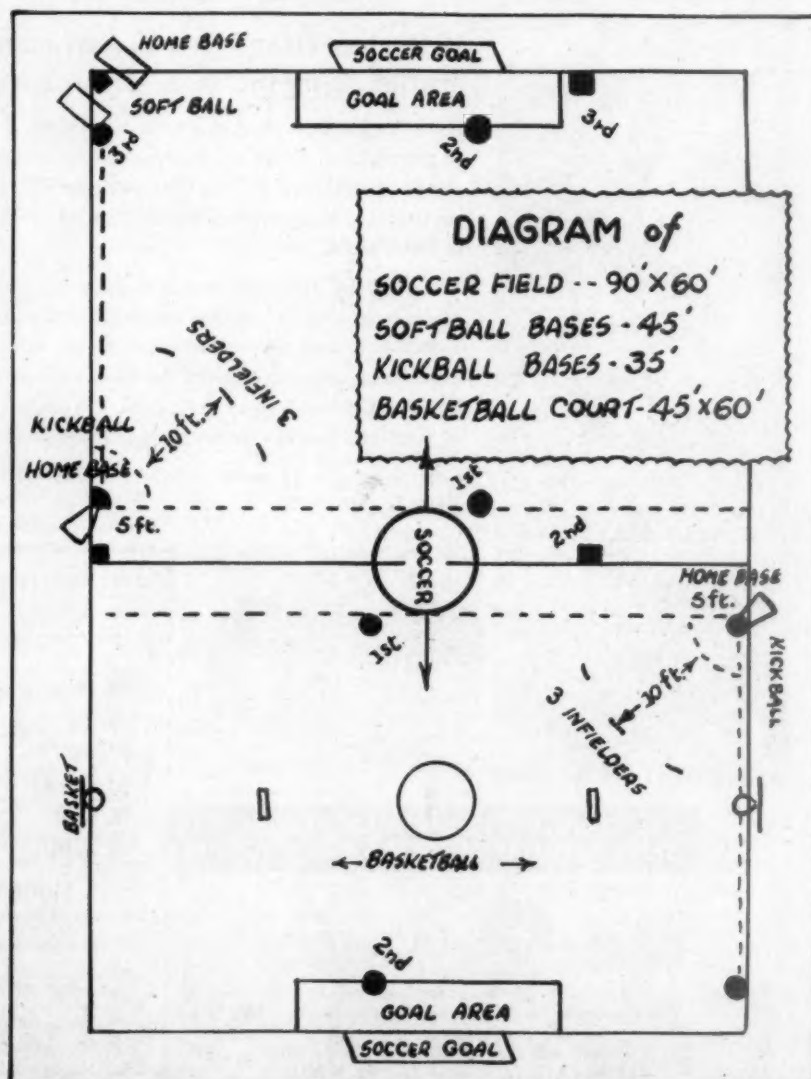
It is true that, if a parking area is lined-off, the area immediately becomes more orderly. So it is with these grade school play areas. You can make them more orderly and more useful just by putting the proper lines on them. By making maps on the playgrounds you will direct your athletes to places on your future varsity teams. The lines may be painted or

marked with lime. Little people like to do these things to earn their insignia, insignia that indicate they are leaders in their school. Plan the playground and then let them keep it in order.

There are other markings the average grade school play area may have. Two or more large circles help the teacher or

the leaders when they direct circle games such as dodgeball, cat-and-rat, three deep, etc. Two or more hopscotch courts are usually fitted easily into odd spaces on the grounds and cater to the younger children.

Basketball or goal-hi are improved if  
(Continued on page 60)



**H. S. DeGROAT**, director of town and school health, physical education and recreation at Newton, Connecticut, served as a specialist in physical education during the war. He organized the army swimming program at the Officer's Training School, Miami Beach, in 1942 and the conditioning program for the AAF at Atlantic City in the same year. He was president of the Connecticut Association of Health, Physical Education and Recreation for 1947.

## The Personal Models of these 1947 stars



*Johnny Mize*  
Tied Ralph Kiner for most Home Runs (51) in both leagues; batted in 138 runs; scored 137 runs.

*Ralph Kiner*  
Tied Johnny Mize for most Home Runs (51) in both leagues; batted in 124 runs.

*Ted Williams*  
Hit 32 Home Runs; batted in 114 runs; scored 125 runs; led American League batting with .343.

*Harry Walker*  
Lead National League hitting with .362.

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Hit 20 Home Runs; batted in 97 runs.



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Hit 36 Home Runs; batted in 106 runs.



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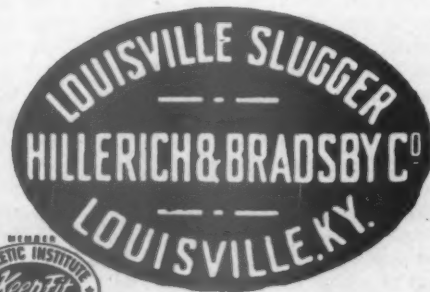
*Tommy Holmes*  
Led National League with 190 hits.



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# LOUISVILLE SLUGGER BATS

for FEBRUARY, 1948



# Track Notes for the High School Coach

By Carl F. Fischer  
Track Coach, University of Connecticut

CARL FISCHER graduated from Springfield College, Massachusetts, in 1929 and received his masters from New York University in 1932. He has taught Anatomy and Kinesiology for the past eleven years and at present is at work accumulating exercises designed particularly to develop specific groups of muscles needed in various track events.

THE College coach looks hopefully at his new batch of track aspirants, fresh out of high school. Many of them will come well-coached in fundamentals, many will have bad habits and many will be so-called "naturals" with unorthodox form but the ability to perform creditably. Over the years certain inadequacies among these new track men seem to predominate in the author's mind. It is about these deficiencies and their correction that this article is written.

It will be assumed that the reader is well grounded in fundamentals. The coaching hints suggested may not be agreed upon by all coaches to be correct, but they are ideas accumulated through years of observation, reading, study and teaching of track fundamentals. There are new ideas and techniques continually cropping up in track; some may be found hidden away in an article, some may be discovered by close observation of champions, some have never been written down and may be found only through chance conversations, and some may be found through a critical mechanical anatomical analysis of an activity. There must be hundreds of these pertinent coaching hints that, if accumulated systematically, would be invaluable to any coach. This article will deal with but a few and only in those events where I have noticed weaknesses in new men reporting for practice.

## Running Events

Two very important skills are noted in the running events: starting and pacing. **Starting Techniques:** The most outstanding deficiency noted in the high school runner is his inability to capitalize on a fast start. The work done in research by Tuttle and Bresnahan stresses the advantages of the bunched start (formerly used only on an indoor track without blocks), over the so-called standard or medium start (knee opposite instep of front foot). From the standpoint of the kinesiologist, the bunched start places the hips and knee extensor muscles in a far better position to exert greater power and instant response. The position approaches that of the racing cyclist. To know that the bunched start is preferred is but the beginning. The adjustment of the front hole and rear hole to the individual runner demands great care and patience. The runner cannot be given holes at standard distances from the starting line adjusted

to his body height that are taken from a table; the coach must know what he is working for and by trial and error fit his runner into his own individual starting holes. Things to remember during this adjustment are:

1. Initial power and drive come from the rear leg; place it so that it has maximum flexion without hindering its ability to extend forcibly.

2. The placement of the front foot determines the ease of balance required in the "get-set" position. As the hole approaches the starting line the balance point is reached more quickly. Distribution of weight, as one approaches the starting line with the front hole, places the center of gravity higher and higher. A happy medium should be found by the ease and speed with which the runner leaves his marks.

3. Arm action should come as a lift, forearm leading, rather than as a thrust. Power should be exerted in the forward and backward swing of the arms.

4. A good start will place the first stride comparatively near the starting line. The second stride should measure about eighteen inches, and each stride thereafter should increase slightly until the full stride is reached and not before fifteen yards have been covered. This varies somewhat with the individual runner.

5. Weight distribution during the "get-set" position: This goes back to point 2. If the holes are too far back from the starting line, the attempt to place more than one-half the weight on the hands (that is, over-balance) places the knees and hips in a very bad position to function at their greatest efficiency. The same will be true if the holes are too close to the line and the runner assumes the "get-set" position with slight over-balance on his hands. The "get-set" position, with the holes properly adjusted to the individual and the weight favoring the arms, will assure the runner the necessary "falling forward position" when he starts his arm and leg action.

The importance of these techniques is felt during the indoor season in the short dashes and hurdle events and also during the outdoor season in the hurdle and dash events through the 440. The care and patience taken during pre-season practice will pay dividends later.

**Pacing:** The second outstanding deficiency found was in the apparent lack of knowledge of pacing displayed by the new man.

Pacing techniques are used universally in coaching and are a subject of great research among students of track. The basis of pacing depends entirely upon the proper distribution of energy at various points in the race and on the wide differences among runners. This presents a problem. Before the coach can determine the best pace for a runner he must have some kind of a standard toward which to work. Rather than "by guess and by gory," a good table to use may be found in "Track and Field Athletics" by Bresnahan and Tuttle.

Steps used to build up pace requirements for the events from the quarter-mile through the two-mile may be listed as follows:

1. The coach must determine the span limits he wishes to use by his knowledge of his material. These may be as follows:

Two-mile—90 sec. 440 for a 12 min. 2 mile to 70 sec. 440 for a 10 min. 2 mile.

One-mile—90 sec. 440 for a 6 min. mile to 70 sec. 440 for a 4:40 mile.

800—80 sec. 440 for a 2:40 half-mile to 60 sec. 440 for a 2:00 half-mile.

440—35 sec. 220 for a 70 sec. quarter-mile to 25 sec. 220 for a 50 sec. quarter-mile.

2. For the first three weeks of running bring all runners along on the same 440 pacing; 90's, 80's, 70's emphasized for the mile and two-milers and 80's, 70's, 60's stressed for the half and quarter men. Use different men during this group practice to set the pace and work down gradually from the slower to the faster 440 paces.

3. During the next period of three weeks build up consecutive quarters of the different paces until three of them may be put together. Up to this point the consecutive quarters are evenly paced. The next step is to speed up the first quarter and maintain the slower second quarter to establish a minimum time pre-arranged for half of race. Build again by adding another quarter at the same pace as the second quarter and work toward a minimum time for three quarters of the race. (Note: The use of the term "quarters" actually is used to mean a quarter of any race on which the runner is working.)

4. Call for the first time trial, insisting

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on pace as outlined by the coach and adjusted to the individual. The coach's experience should enter here in selecting a moderate pace to bring out the results of the training period. Particular attention should be paid to the first quarter and the last quarter of the race in relation to the middle half.

5. The results of the first time trial with the men running the race of their own choice should give a picture of the runners' potentialities to a certain extent. The races from the 880 up are determined entirely by how fast a contestant can run the first quarter and then settle down to a pace that will give him a good time for the race. An 880 man who has reached his peak performance of :57 for the first quarter and a total time of 1:59 probably would make a better miler if he had the necessary endurance. A 4:30 miler should be able to run at least a :65 first quarter and subsequent :68's and :69's. A 10 flat two-miler must begin with at least a :70 and maintain quarters that will not go over an average of :75's.

6. During the season the runner may be brought along by lowering his first quarters slightly during his under-distance speed workouts and set his three-fourth distance mark at a time that would result in a lowered total time. (Note: Always have him stride through the remaining one-fourth of his race after timing his three-fourths mark to give him the assurance that he can finish the race after speeding up his three-fourths' distance time.) The 4:40 miler whom you wish to lower to 4:36 may be asked to run his three-quarters' under-distance speed workout in 3:26, which should give him presumably a 4:36 at full distance.

The over-distance workout other than the long runs for endurance should be set at a pace slightly slower than the pace of the middle of his race and always run against the clock to insure adequate speed in this important part of the training schedule.

Too much stress cannot be placed on pacing. It is true we have runners who run best when others set the pace but they are in the minority. Many cases may be cited where champions have been thrown off by matching pace with an opponent.

### Field Events

The general over-all weaknesses shown by the new men in field events were faulty approach, inability to get maximum efficiency from their muscles during execution and the lack of knowledge of specific developmental exercises for their particular events. The broad jump and pole vault are selected to be discussed in this article.

**Broad Jump:** This event has always been a stepchild in the program of events. There is less time spent in training for the broad jump than any other event and

yet the points to be won count as much toward the score. The broad jump is a combination of speed and height; if written like a physics formula, it would read "speed times height equals distance." To accomplish this the following coaching hints should be noted:

**Approach:** 1. The run should not be less than eight feet. Momentum and follow-through are built up in the run. 2. The strides must be those of the sprinter, with good body lean and lots of forward drive. 3. A gradual increase in speed between each set of marks is important and should be practiced until the speed and strides between a specific set of marks is always the same. 4. Full speed is reached and maintained between the last mark and the board. The last stride should be consciously shortened to allow for the forward drive of the body. The reasoning behind this point came from observation of jumpers during hundreds of jumps. The fact that most jumpers make their best jumps when they step over the board slightly was analyzed, and it was discovered that when an experienced jumper realized he might foul his jump, he would shorten his last step in an attempt to avoid this. This act placed his body weight forward on the take-off, giving him greater forward drive than otherwise.

**Flight:** 1. No attempt will be made to discuss the various styles of jumps. The important objective in all styles is height, and after a proper take-off this may be greatly aided by good arm action. The arms not only provide added lift and carry but also help the balance and forward momentum on landing. They should be swung up forcibly on the take-off and carried high during the flight. This helps hip and trunk flexion. As the jumper approaches the pit the arms swing forward and downward to bring the upper body forward after contact with the ground. 2. Height in the jump must be acquired immediately at the take-off. To accomplish this a hurdle or a crossbar placed at varying distances from the board may be used to instill in the jumper the desired angle of lift necessary. The run for this practice should start at the last mark. Height, not distance, is the objective.

**Practice and Exercises:** 1. The broad jumper's time each day should be spent with the dash men, high jumpers and in practicing his marks and take-off. Jumping for distance, other than perhaps four good jumps during trials two days before the meet, is considered unnecessary and detrimental. The skill of broad jumping is not developed by jumping but by perfecting the various parts of the event. 2. The broad jump after the take-off is a combination of arm lift and trunk hip and knee flexion. Before the jumper alights his arm is brought down forcibly and the knees are extended forward for added distance. Developmental exercises

should include those that place added resistance on the entire group of body flexors. Exercises such as sit-ups, leg-lifts, wall weights for the arms and upper back, and deep knee-bending, should be included. During the pre-season these exercises should be given for developmental purposes; during the season, only for maintaining muscle tone and for warming up.

**The Pole Vault:** The pole vault, besides being the most spectacular field event, is considered the most skillful. Perfect timing and co-ordination, a part of many of the field events, becomes more important in the execution of the pole vault because of the added factor of the pole. Weight, momentum, swing, lift, gravity—all parts of the jump that need to be either overcome or developed—join forces to make this event highly skillful and precise.

No attempt will be made to analyze this event completely. This has been done thoroughly and in a scholarly manner by Cromwell in earlier issues of this publication. There are, however, several points which may be worth the consideration of the high school coach in preparing his jumpers: (1) the height to grasp the pole for different jumping heights, and (2) the exercises to develop the muscles used, determined by a muscle analysis of the event.

Most jumpers lean the pole against the crossbar for measurement of the top-hand grasp and then adjust the take-off and each mark accordingly. In an activity that depends almost entirely on uniformity of speed, timing, co-ordination and mechanics, the shifting of the hand grasp after each height of jumping presents too many chances for error. With so many different movements to make (one investigator\* counted thirty-five) any attempt to maintain uniformity in approach and take-off would help cut down deviations in the execution of the jump. Using this premise, I urge the establishment of no more than three points for top-hand grasp, these to be maintained until improvement warrants the change. The exact heights must be determined by the coach and his jumper and should be established for low or warm-up jumping, medium and high jumping. The range may be established with the top mark placed at the point the jumper best clears his top height. Many jumpers, particularly the poor or beginning jumpers, hold the pole too high because they cannot perform the jack, kip-up and handstand necessary for crossbar heights higher than their hands. With the three established heights the novice may be held to the low or medium grasp with the crossbar above his hands to simulate the top-flight at championship height. Once these hand

\*Brutus Hamilton, Univ. of Calif., Athletic Journal, April, 1941.



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grasps are determined, the marks on the runway will be reduced to just three points to be used correspondingly to the low medium—or high—hand grasp.

The pole vault, like the high jump, broad jump and javelin throw, uses the trunk and hip flexors after the action is initiated by the knee and hip extensors, but unlike these events, brings into play the trunk rotators, the trunk extensors

and the hip extensors with more than half the success of the main part of the vault due to the work of the muscles holding the scapula in place and the large back muscles that draw the body up to the arms. The above listing does not take into consideration the finger, wrist and elbow flexors on the pull and elbow extensors on the push-up. From a mechanical, anatomical standpoint, all the main

joint flexors and extensors enter into the activity at one time or another. This point is brought up to emphasize the necessity (1) for an over-all body-development program and (2) because of its scope, the necessity of spreading this developmental program over a long period of time. The pre-season training is to strengthen all the groups that in com-  
(Continued on page 59)

# Mechanics of Good Starting

By E. A. Thomas

Secretary, Kansas State High School Activities Association

**A** MAJOR weakness in the officiating of track meets is the lack of uniform and efficient starting. One reason for this weakness is the lack of instruction given to runners in their practice sessions. Another is the absence of good starters.

Many coaches neglect to study the rules of starting and hence fail to instruct their athletes properly, especially their sprinters and hurdlers. Likewise, too many starters are unfamiliar with the mechanics of good starting and are not trained in the proper methods of handling runners at the starting marks.

## Relieve the Tension

Nothing is more important in the handling of runners, especially high school and younger college boys, than to gain their confidence. It is always better to take a little time, when necessary, to make sure that each runner understands what is expected of him and to get across the idea that he will be given an opportunity to run his best race without worrying about an even start.

## Responsibilities of Clerk

The Clerk of the Course and his assistants have the responsibility of getting the competitors to the starting place and of seeing that the starting lanes are drawn or announced in advance. Starting blocks should be placed rapidly by assistants. This will give the starter plenty of time to give his instructions to the runners without undue hurry.

## Instructions to Competitors

Following are important instructions to be given to the runners:

1. Name of the event. Example: This is the first heat of the preliminaries of the 100-yard dash.

2. Number to qualify, if it is a heat. Example: The winners of the first three places will qualify for the semifinals.

3. Places to be counted in scoring, in the finals. Example: The winners of the first five places will place in this race.

4. Give clear instructions regarding runners staying in their lanes in sprints, hurdles or other races run in lanes.

5. Explain requirements regarding jostling, cutting in front of, or impeding the progress of, competitors.

## The Starter's Duties

After the Clerk and assistants have performed their duties the starter should:

1. Inspect his pistol and blanks.

2. Inspect the starting line quickly.

3. See that attendants and others remove themselves some distance and require silence in that particular area.

4. Take his position from three to ten yards in advance of the starting line on the side of the track away from the grandstand. The distance will vary according to width of track, number of runners, and factors involved in getting a good focus on the runners.

5. Give command to runners: "Stand at your marks" or "Come to your marks and stand."

## Starting the Race

As quickly as possible, without the appearance of hurrying, the starter should get the race under way. The following mechanics are proper and official:

1. Give the command, "Get on your mark."

2. Allow sufficient time to see that all are in proper position and nothing is out of order. If this takes more than eight to ten seconds, the runners should be given the command, "Stand up," in order that their legs will not become cramped.

3. When all are in proper position and

steady, the command, "Get set," is to be given. After this command the rules require a minimum of two seconds before the gun is fired. Taking into account the two-second period between the "get-set" signal and the gun, when all are steady the gun should be fired.

4. When a competitor gets a "rolling start" and is in motion when the gun is fired the runners are recalled but no penalty assessed.

## Staggered Starting Marks

In relay races and others in which runners run in lanes and the starting marks are staggered, the starter must take a different position. If room permits he may stand within the oval so that he can see all runners from the side. It is often necessary for the starter to stand either in front of or behind all runners. A small megaphone should be a part of the starter's equipment in such races. If he stands in front, the gun should be held in a horizontal position on the command, "Go to your marks," and raised above the head on "Get set" so that runners too far away to hear commands may get an even start by watching the pistol and starting with the smoke, or flash. Of course, the signals must be explained to the runners in advance.

## Object of Good Starting

It is not always necessary for starters to follow the complete routine outlined above. When working with the same runners for a time, as in preliminaries, semifinals, and finals of dashes, many explanations may be omitted. Starters must know the rules as outlined in Rule 21 of the N.C.A.A. edition of the guide and Rule 6-2 of the National Federation edition and should spend the time it takes in study and practice to become a good starter.

**E. A. THOMAS**, Secretary of the Kansas High School Athletic Association, is also acting secretary of the National Collegiate Track and Field Rules Committee and is a representative of the National Federation of State High School Athletic Associations. This article was prepared by Mr. Thomas for the National Collegiate and the State High School track guides for this year.

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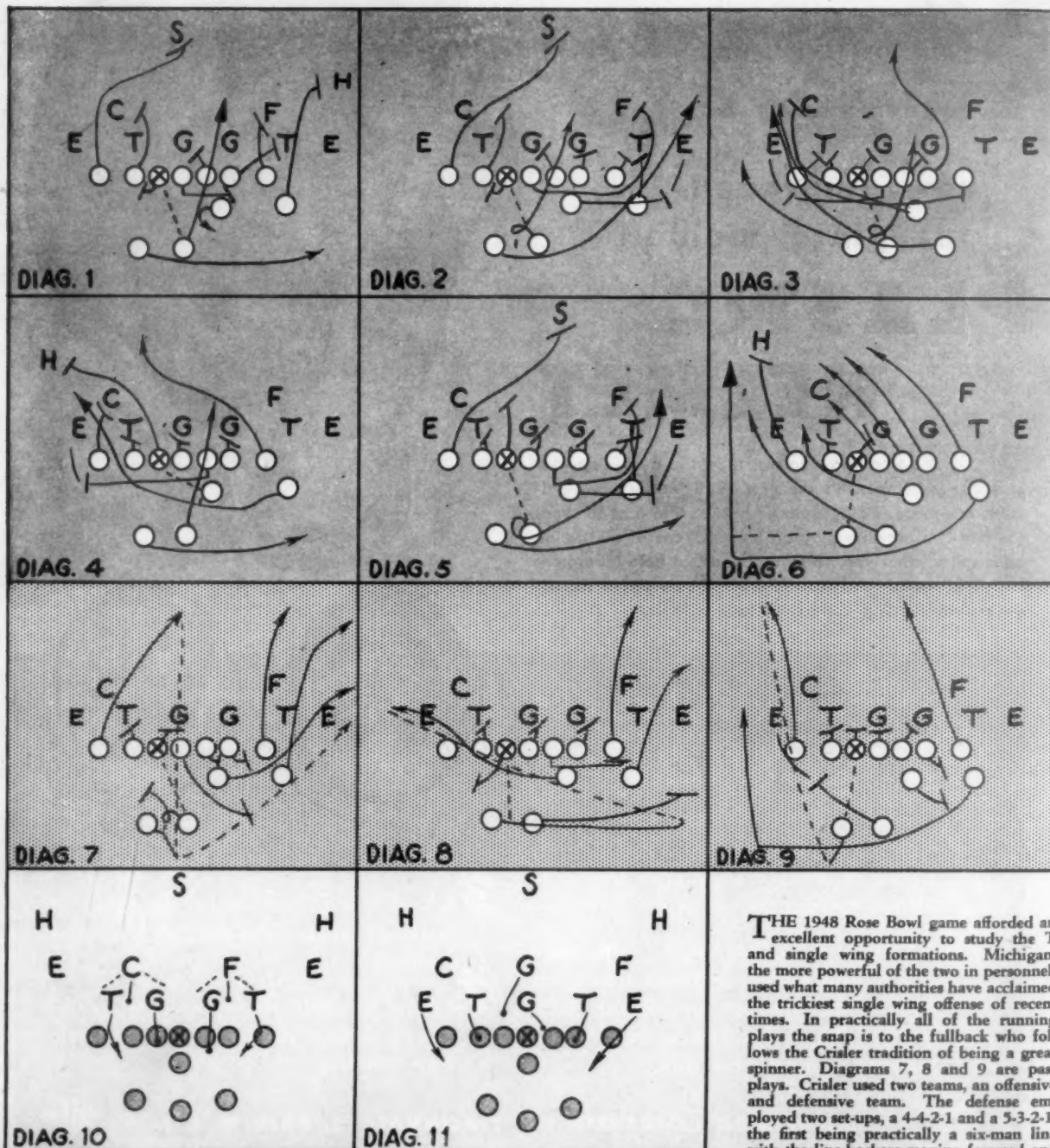


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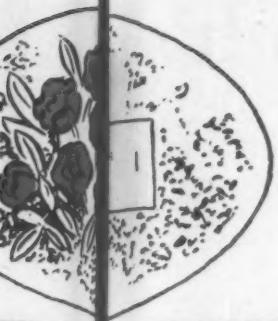




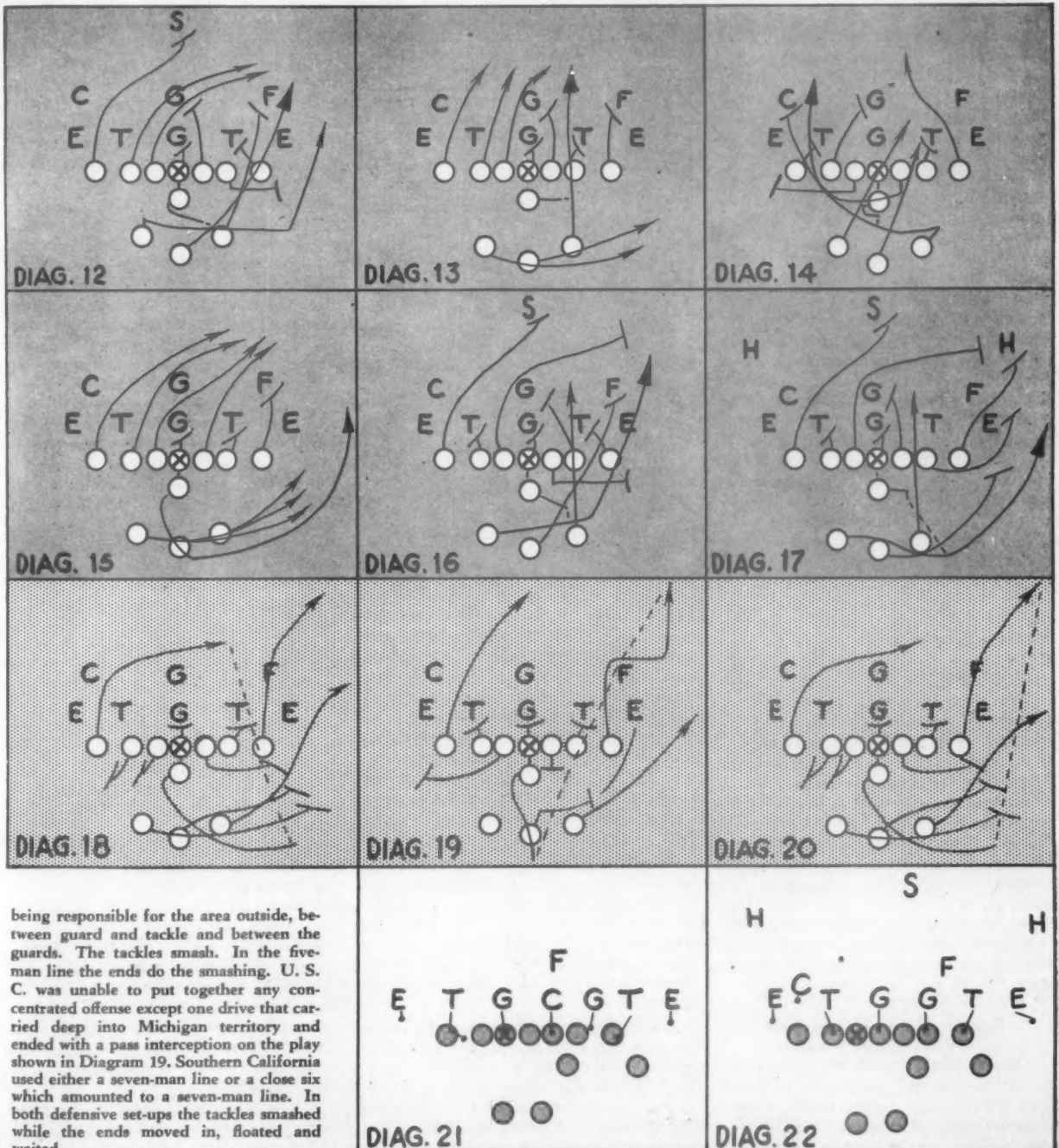
# MICHIGAN



THE 1948 Rose Bowl game afforded an excellent opportunity to study the T and single wing formations. Michigan, the more powerful of the two in personnel, used what many authorities have acclaimed the trickiest single wing offense of recent times. In practically all of the running plays the snap is to the fullback who follows the Crisler tradition of being a great spinner. Diagrams 7, 8 and 9 are pass plays. Crisler used two teams, an offensive and defensive team. The defense employed two set-ups, a 4-4-2-1 and a 5-3-2-1, the first being practically a six-man line with the line-backers moving forward and



# SOUTHERN CAL



being responsible for the area outside, between guard and tackle and between the guards. The tackles smash. In the five-man line the ends do the smashing. U. S. C. was unable to put together any concentrated offense except one drive that carried deep into Michigan territory and ended with a pass interception on the play shown in Diagram 19. Southern California used either a seven-man line or a close six which amounted to a seven-man line. In both defensive set-ups the tackles smashed while the ends moved in, floated and waited.

# Preparation Is the Thing When It's State Tournament Time

By John A. Grayson

Basketball Coach, Springfield, Missouri, High School

**B**EFORE outlining the things we have done and the factors involved in preparing a team for the state tournament, I wish to clarify the title of this article in the following two ways: (1) We do not wait until actual tournament time to prepare, (this is only one phase of preparation) and (2) we do not mean to indicate that preparation is definite assurance that a team will "waltz off" with the championship trophy. Other things being equal, however, we feel that preparation will invariably place the odds in favor of a team.

Any coach who has ever watched a team flounder helplessly against an unexpected defense, or has had such a thing happen to his team in a state tournament, realizes too late that precious hours of preparation would have been well worth the effort. The coach who has been through the grind knows how important it is to be prepared when he finds his team in the thick of the championship fight. There is a wide gap between knowing the necessity of preparation and actually being prepared which can be bridged only by careful planning and many hours of hard work.

Having had the experience of both losing and winning in the state tournaments, I know the need for preparation and feel that there are three phases in getting ready for the state play-off: (1) The play during regular season competition (2) immediately preceding tournament play and (3) during tournament games. Even if there is a remote possibility that his team will enter the finals, waiting until it is definitely in the tournament to begin preparation is unwise. In many states it will be late in the basketball season before a coach is assured that his team will enter the final rounds. In some states the district or conference winners automatically become championship contenders. In other states, as was the case in the state where my teams entered the tournament, it was necessary for a team to win the regional tournament before entering the state play-off one week later.

## Regular Season Competition

I like to think that most coaches begin preparations during the regular season of play. I will discuss the points that we emphasize during our regular season, points that we find helpful later in tournament

**JOHN A. GRAYSON'S** eight year record as a high school basketball coach is an impressive one: His teams at three Oklahoma schools won 226 games and lost only 27, won 15 tournaments and lost seven, won five conference championships, tied for two and lost only one. Grayson graduated from Oklahoma University in 1938. During 1942-43 he coached the Camp Crowder team which stopped Kansas University's 12-game winning streak.

preparation.

- (1) Catalog the teams we meet.
- (2) Work against the types of offense and defense we seldom meet.
- (3) Set up a file on strong state teams and personnel.
- (4) Do all the scouting of strong teams possible.
- (5) Study officials and their types of officiating.
- (6) Teach tournament routine during overnight trips.
- (7) Teach fundamentals as good insurance at tournament time.
- (8) Watch out for mental or physical let-down.

When we speak of this period of preparation, we are thinking not only of the games on our regular schedule but are doing much work toward preparing for possible tournament play. We catalog each team's tactics both offensively and defensively and make notes concerning personnel. The good or bad tactics we use against a particular team's style of play are carefully recorded, explained, and demonstrated for the benefit of the entire squad in our next regular practice session. This will be valuable information later in the year.

Throughout this period we are constantly working against defenses we have not met or have met infrequently. Such defenses in our particular case were the zone and all-court pressing types. Against these defenses we work hard on our offensive maneuvers that have proven most successful.

We have no assurance that the teams we meet in regular season play will be the teams we will meet in qualifying or in final tournament competition. It is important, then, for the coach to do something about the teams which he is not meeting in regularly scheduled games but

may compete against in tournament finals. In our state we were fortunate in having a newspaper located in the capital city which ran a weekly list of the ten top teams. Naturally many teams were dropped and others were added throughout the season so we set up a file with a folder for each team listed in the "first ten" throughout the season. In each folder we placed clippings giving a resumé of the games played by each team that week along with personnel data on the teams' outstanding players. Under a miscellaneous section of the file we placed clippings on other strong state teams which did not make the "big ten." With this file we have information which may be needed should a "dark horse" show.

We use this period to scout as many of the best teams in the state as possible. The teams are scouted, first, to observe the tactics used by the teams and to study their personnel, and second, to tab the officiating. The latter may seem to be of little consequence but officials used in tournament competition were selected from various sections of the state. Although the air between the East and the West reverberates with charges over the officiating, within the bounds of our own state we found vast differences in officiating. As an example let me cite the number of fouls called against our team during the state tournament three consecutive years, in three games each year: first year 29, second year 70, and the third year 39. This is a clear indication that some officials were strict and others more lenient in their methods of handling the games. I believe that a team with a knowledge of the type of officiating to be expected will have another asset in their final preparation.

In this regular season period we have scheduled games which will require spending one or more nights away from home. While traveling we explain to the players exactly what is expected of them with respect to training rules; this means specific periods for walking, resting, eating and sleeping. We impress upon the boys the importance of protecting hotel furniture and other property where we have rooms. Later at the tournament center it has been unnecessary for us to worry about these important matters.

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practicing them. It has been my experience that a team well-grounded in fundamentals is prepared to handle more than one offense and defense. A fundamentally sound team can successfully meet a changing defense during the short course of one game. If a team is grounded in fundamentals, it will not be difficult for a coach to introduce a new offensive or defensive maneuver or change his tactics in the thick of the championship struggle.

It is necessary for a coach to watch his team for any sign of a let-down either mentally or physically. Through close observation of the entire squad we have been fortunate in avoiding this. Experience has taught us that to learn something thoroughly it must be taught through repetition. The same hard work required each day in learning the finer points of basketball is likely to become monotonous. When a thing becomes monotonous it tires the mind and in turn will cause a physical let-down. A change is the surest and quickest remedy. At the first danger sign we ease up on our work, skip a day or two of practice, and take the boys to a good college game.

#### ***Phases Immediately Preceding Tournament Play***

- (1) Pull the files and study reports on teams definitely in the tournament.
- (2) Call a diagram conference on season play and future plans.
- (3) Work on the best offense and defense.
- (4) Brush up on the method of "freezing" the ball.
- (5) Practice the tactics used to gain possession of the ball when behind.

This period, usually not more than a week, is one of utmost importance. We go into this phase of preparation methodically because we have in our files a wealth of information with which to work. The hours spent preparing the file during regular season play will begin to pay big dividends. We know the teams in our class (A) which have been chosen by play-off elimination the day following the regional tournaments. There will be only eight teams including our team. We pull the folders on the seven tournament teams and if one or more teams are not included in this group we go to the miscellaneous file and find there the remaining information we need together with the scouting reports. Special attention is given to anything unusual which occurred in any of the games we have recorded. For example, we found one game in which a team, leading by eight points with four minutes of playing time remaining, was tied and finally defeated in the extra period. The team that was behind changed its defensive tactics at the beginning of the four-minute period from a sinking to a pressing type, demoralized the team in the lead and took an almost impossible victory.

It so happened that we met one of these teams in the state tournament and this information helped us considerably. Much worth-while information is obtained from the scouting and personnel files.

Immediately after studying our files we call a conference of our entire squad. In this session every offensive and defensive maneuver we have used is diagrammed on the blackboard. We discuss at great length the tactics used to guard a "star" pivot man since at least three of the teams in the state finals had "star" pivot men.

Upon returning to the practice floor we begin work on the things discussed in our conference, including our best offensive and defensive maneuvers. By this time we have received a bracket giving the tournament schedule and we know which team will be our first opponent. All efforts are directed toward winning this game, by preparing for it with information taken from our files.

Considerable attention is given to our method of "freezing" the ball. I am in full accord with the coach who once wrote that the know-how of "freezing" the ball has become a lost art. With our team ahead in the final minutes of the game we want to know that it is adept at controlling the ball, especially since the intentional foul rule will give us one free throw and continued possession. At least two of our games in the tournament last year were won because we were prepared to control the ball and stop a game-ending rally.

Just as important as "freezing" the ball is knowing how to meet the situation when a team is behind and the other team elects to "stall." With a prearranged method of obtaining the ball the situation is difficult enough, but to be entirely unprepared is nothing short of suicide. We work a great deal on both "freezing" and gaining possession of the ball by alternating our squad members and using our prearranged tactics.

#### ***Phases During the Tournament***

- (1) Move into the tournament center a day ahead of the scheduled game.
- (2) Have definite periods in which to eat, rest, sleep and walk.
- (3) Scout every team in your class and record the results.
- (4) Immediately upon winning your first game make plans for your next opponent.
- (5) If overnight changes in tactics are deemed necessary, make such changes.

We like to move into the tournament center at least a day ahead of our first scheduled game. Some coaches may feel that it is not necessary to arrive at the tournament early. I am convinced, however, that sleeping in a strange bed is better than traveling a great distance on the day of the game.

After we have a light practice session on a court which we have made previous arrangements to use, we begin the usual away-from-home routine. This training period at the tournament is vitally important and unless the boys have been previously taught the things expected of them the coach may be in for the extra work of rounding up his team two or three times a day. The boys are in a new town and there are many things to do; it is up to the coach to direct their spare-time actions into the proper channels. We have definitely scheduled periods for eating, taking walks, resting and sleeping. Our routine will only be disturbed by the tournament bracket. If our games are scheduled for afternoon or early night sessions no change from our regular season habits are necessary. If we draw the final game at night, however, it is almost impossible to have the boys in bed before 11:30 or 12:00 o'clock, necessitating a change in both our sleeping and eating routine. It is most important that our boys take a comparatively long walk upon finishing their meals. When this walk has been completed we insist that the boys stay off the streets and get plenty of rest. In the afternoon they have a choice of attending a movie, remaining in the hotel, or attending a session of the tournament in which the teams in our class are not participating.

We scout every team in our class regardless of their position on the bracket. If this is not done we may find ourselves in the finals with a team which did the impossible by upsetting the "big boy." We receive the full benefit of scouting teams in the tournament since tactics never before used by these teams may become apparent. There will be close games giving us an opportunity to see the teams in action under fire hotter than they have most likely known all season. Merely watching these teams is not enough; we like to record all important phases of the game and chart personnel achievements.

After the first-round game has been concluded successfully no time is lost in making plans for the next opponent. We take stock and, if the use of new tactics seems warranted, we do not hesitate to make the change. This may seem to be unorthodox basketball but remember, we came to the tournament prepared to make such an adjustment. Our long hours spent on fundamentals and the work we have done on different offenses and defenses are ready to pay off. To explain this point let me quote from an article written after our final tournament game last season:

"Muskogee's coach changed the Rougher offense overnight from a slow, methodical machine that leaves nothing to chance to a hell-for-leather, fast-breaking unit that took long chances for quick two-pointers.

"The suddenness of Muskogee's mad rush for points startled their opponents  
(Continued on page 62)

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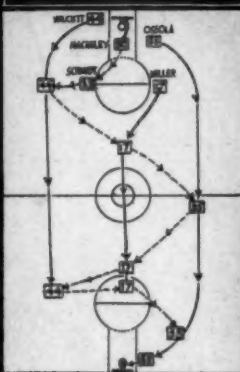
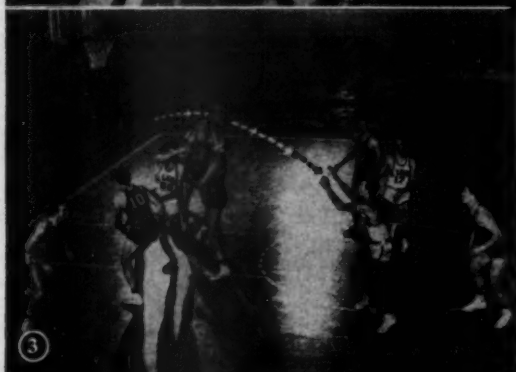


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# FAST BREAK

Analysis of a Formidable Offensive Maneuver Used by St. Louis University



Credit for this excellent fast-break maneuver layout is as follows: Photographs by Jack Gould, St. Louis Post-Dispatch PICTURES. Text by Robert Morrison of the Post-Dispatch Sports Staff.

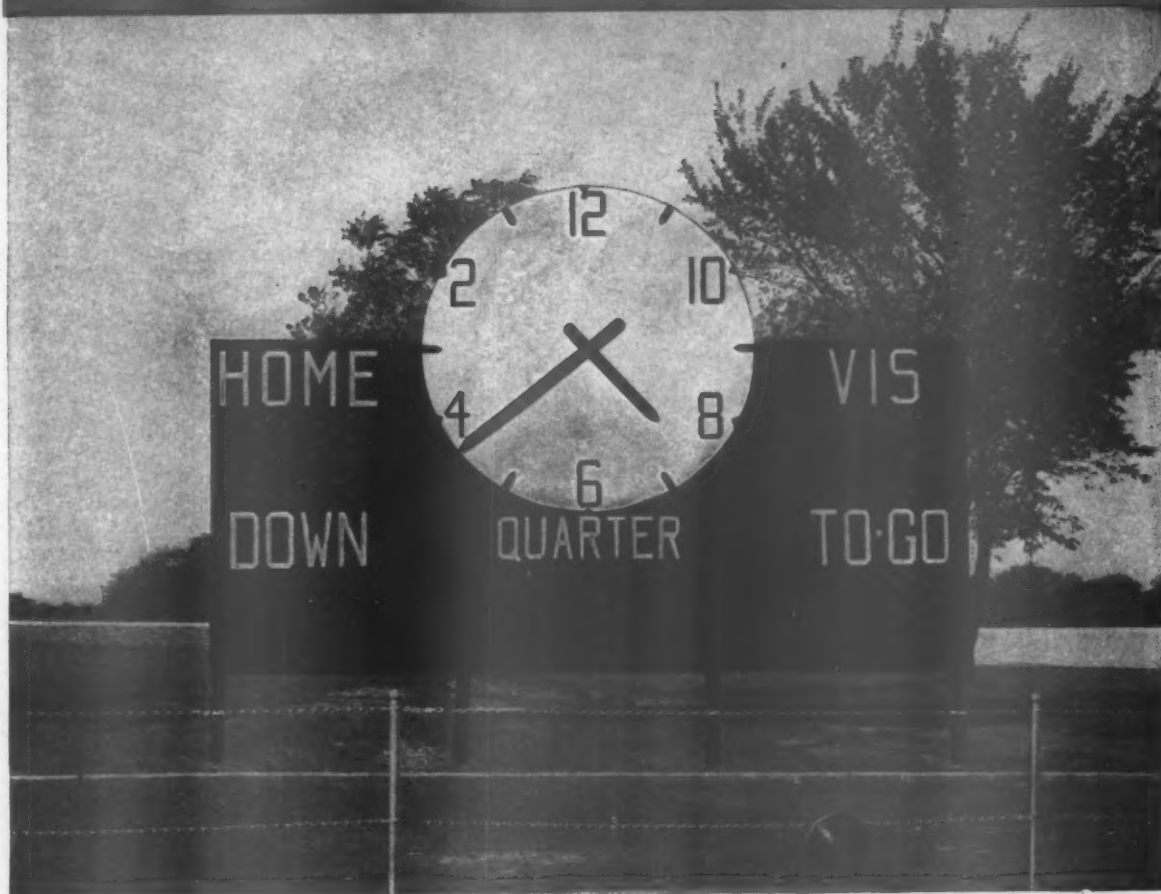


I. 17 takes a one-hand jump shot. 50 checks 22 out of the play. 44 screens 10. II. 50 gets the rebound and blocks 22. 44 checks 10. The fast break starts. III. 50 passes to 33 as 44 and 55 break down court, Miller breaks down the center. IV. 33 passes to 44. 55 and 17 go down court. V. 44 has passed to 17 who is about to flip it to 55.

The blue guards run ahead to protect goal. VI. 17 now at free-throw circle snaps the ball to 44. VII. 44 has returned the ball to 17 who passes to 55, driving toward the basket as the guard commits himself to cover 17. VIII. 55 leaps for a lay-up shot, covered too late by guard 30.

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# Training for Track

By Joe Glander

Assistant Track Coach, University of Oklahoma

**T**HE definition of training implies three rules: 1. A graduation. 2. A training. 3. A renouncing. Graduation in effort and speed, training in carrying out to the letter a course of training, giving up everything which can uselessly degrade an athlete, giving up temporary, present pleasure so that a greater, more permanent goal may be attained, require courage and determination. These fundamental rules accompany the athlete through all his training. The more the graduation increases, the more the discipline must be strengthened and the more important the renouncing becomes.

This curve represents the different periods of training. A-B represents the period of adaptation, of starting what I call "putting in physical condition." It is a function which quickly becomes weakened, which is always badly trained or often not trained at all, and yet which dominates all the others. It is primarily a pulmonary function and is done to train the heart, to increase the pulmonary power and keep it at its maximum.

The best way to succeed in this is to do some "footing." The Finns and the Swedes, who are aware of the secrets of physical resistance, have taught it and their excellent results can be attributed to it. The "footing" is an extended and supple walk with the breathing exactly rhythmical on the step. It is necessary to breathe very deeply and slowly.

While walking, a deep inhalation during four or five steps is followed by a slow and complete exhalation during the four or five following steps. When one runs, one inhales for three steps followed by exhaling for the three following steps. The inhaling and exhaling should be made through the nose. Thus the lungs are

opened and become active from the bottom to the top and increase their breathing capacity while increasing the reserve air and the complimentary air.

It is also important to train oneself to breathe slowly. It is a proven fact that a single respiration of 0.500 liter assures a ventilation equal to that of two respirations of .340 liter made in the same time. It is necessary then to breathe in proportion to the effort and to force the breathing little by little to adapt it immediately and eventually automatically to the most varied efforts.

The "footing" should be done as much as possible in the country where the atmospheric humidity is constant and favorable. The "footing" likewise compels one to perspire. Hence the game of pulmonary and cutaneous evaporation is an essential factor of the temperature regulation, especially in very strenuous exercises where it is increased tenfold.

The breathing, and with it the CO<sup>2</sup> reject, is increased fourfold in rapid walking, sevenfold in normal running, and tenfold in intense running.

At the same time, training with better lung ventilation increases the alkaline reserve of the plasma (when there is an excess of CO<sup>2</sup>) and helps to maintain the equilibrium of the blood red Ph. Instead of being the simple direct effect of combustions, the lung exchange represents, above all, the blood red vascular function, more important and more vigorous than that of all the glands of the organism.

To increase the pulmonary power of ventilation is to affirm the equilibrium and the power of constant restoration of the relation carbonic acids while acting in two ways, either in freeing the carbonic acid by the game of breathing, or in in-

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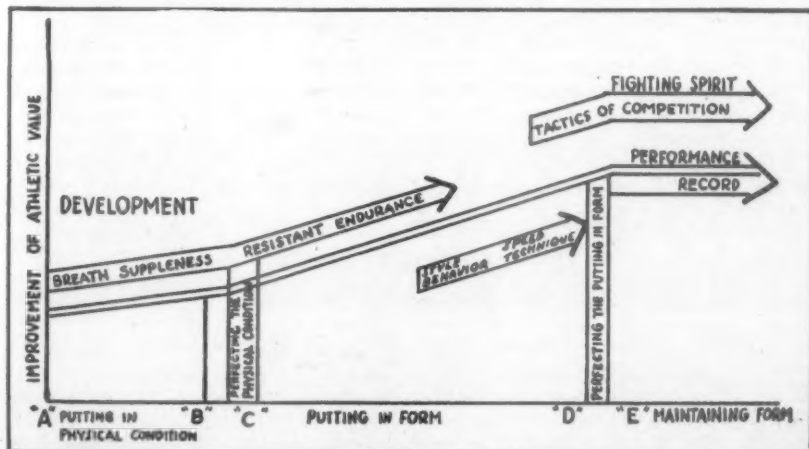
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creasing the alkaline reserve by the game of alkaline buffers. This is what has been said by a great physiologist: "Lung ventilation, guardian of the vital blood red Ph., is the key of life."

According to the individual and his age, a period of three to six weeks is necessary to obtain a lung ventilation which is well-trained and powerful. The distance run should increase progressively from one to five miles. When the breath is well acquired, one out of two of the "footing" meets should be replaced by a cross-country, which is a race of supple and medium gait without forcing and extends from one to three miles over a terrain varied by rough fields, woods, and paths.

Upon returning from these runs it is beneficial to cool off by walking and jogging slowly until the pulse has returned to near normal walking rate, before showering in lukewarm water. Many would-be runners have washed their best race down the drain with prolonged hot showers.

B-C represents a shorter period than A-B, and is nothing more than the period of perfecting the preliminary period of conditioning. It is done by adding some more violent physical exercise such as climbing hills, overcoming natural obstacles or some series of more intense exercises.

This training demands some more or less intense efforts for various parts of the organism, with particular interest in the lungs, heart, articulations, etc. These parts must now be strengthened in order to permit the entire organism to acquire its maximum of suppleness, resistance and endurance necessary in sports efforts. The result is a rapid increase in all physical strength.

We have spoken opportunely of "A-B," the essential role of lung training, and have indicated the physiological reason for it. Let us see now the qualities which the muscle develops in this first period of preparation. In order to understand it I insist in recalling the presence in the muscular fiber of two important substances, glycogen and muscular hemoglobin, the first as a combustible, the second as the reservoir of oxygen. Since we already know that the muscle burns the glucose in prolonged or violent exercise when blood irrigation becomes insufficient or the need of glucose more immediate, the change of a combustible is made by the reserve glycogen of the muscle. It is a potential reserve suitable for smooth and striated muscles, a potential which training can enrich to the highest degree. The muscles, on the other hand, are not colored only by the blood which irrigates them; they have their own hemoglobin. Eager for oxygen the hemoglobin stores it during muscular expansion and makes use of it during periods of greater activity. It is a carbide necessary for the mobilization of combustible glucose-glycogen and completes the function of blood irrigation.

Let us add that when the muscle contracts, the pressure which it exercises on these capillaries momentarily stops its contribution of oxygen, hence the necessity for a reserve of this precious gas. The training will enrich not only the reserve but will greatly increase the power of blood irrigation and will aim as well in obtaining a power of maximum expansion of all the muscles which are not made to contribute in the effort. It is, as we shall see later, the principle of economy through style. And it is this principle of style which gives proper ease to champions and permits them to achieve superior performances.

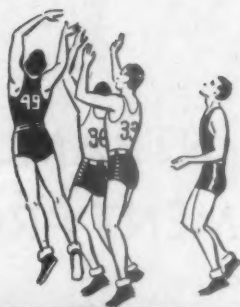
Let us come back to the physiological reasons for this. It appears from what has been said, that when a muscle is able to work best and to maintain a more lively or prolonged contraction, its preliminary expansion will be greater and its color will be more red. In man, one no longer distinguishes clearly, as is done in other vertebrates, between the two kinds of muscles, pale and red; the pale ones rapidly "de-clanchent" the movement; the red, being more powerful, endure it. In man, instead of forming distinct muscles, the two kinds of fibers are mingled in the same muscle which renders their collaboration still more intimate. One might also wonder if this isn't a form of degradation in space (less marked in the black race), which has kept this elective differentiation of muscle and which furnishes the Olympic Games with men of prodigious speed and an astonishing ability to relax such as Owens, Metcalf, Tolen, Atkinson, Johnson and Cator. On the other hand, one does not find many Negro athletes showing real worth in the races of great resistance. This is due to the fact that, muscularly more differentiated, the Negroes possess a predominance of pale muscles or a greater wealth of pale fibers. Because of this their ability for relaxing and speed is superior, but they also become fatigued more rapidly.

What is certain, in any case, is that training increases the number of red fibers in the muscles and consequently increases their power.

Thus the perfecting of the physical condition in the period B-C has for its object the careful exercising of the essential properties of the muscle, fortifying the ligaments and making the articulations supple. Through exercises of relaxing and extreme bending of the arms and stretching of the muscles, one increases the articular suppleness, the expansion and elasticity of the muscle, and its tonicity (a physiological property which permits it to be able to vary and to rule this elasticity when needed).

Let us suppose that, having attained the terms of the period A-C, we are now ready for the ascent of the curve C-D, which I call the period of putting in form.

In the beginning, the training prescribed



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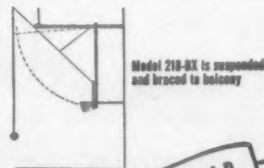
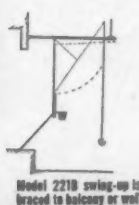
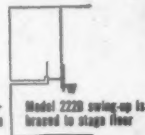
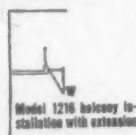
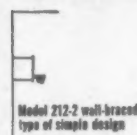


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POSITION.....

for A-B (the footing), is like exercises and scales for the pianist, but it is necessary now to devote oneself particularly to study the style in sports (for example, the style of throwing, of swimming, of racing etc.).

Style has been gradually improved by champions to a point of relative perfection, and one should not be afraid to address oneself to them to learn it, for a wrong style once acquired is extremely difficult to correct. An entire re-education is then necessary. The study of style demands practice in muscular laxness, a general preliminary suppleness, sufficient relaxation and a preparation for the associations of movement and bodily equilibrium of the different sports attitudes. Thus, one will only be able to acquire the style for a useful and rapid output if one studies thoroughly from period C.

In teaching style it is necessary to know how to decompose the movement, but it is dangerous to decompose too much. Showing slow motion films, for example, which gives the perfect decomposition, is much less instructive than is believed. It does permit the verification of a movement if one is already well skilled or if one stops the picture at the proper moment to fix an attitude.

The essential thing is to correct the intervening attitudes. These serve as points to repair any departure from the correct style or to draw to a head a sports movement which itself is not irrelevant but, on the contrary, makes continuous associations of movements and not attitudes. Hence, the decomposition of the movement of a style must be at a minimum; two to three aspects generally suffice to guide the teaching of it.

*In exercising style*, in order not to break the harmony or to make a mistake, the athlete must concentrate, but, *above all else, he must restrain his ambitions and not seek his best result at the first by a pushed effort.* It is a task of patience and self-control.

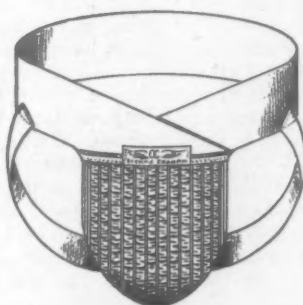
Along with style one also thoroughly examines technique. Such things as the manner of laying out the holes or setting of the starting blocks for the sprints, the calculation of the approach or of the number of exact steps of the run which precedes a jump or a throw must be considered.

Before technique can be developed one must first have muscular resistance, amplitude of movement, the desired length of stride and the ability to relax. In a word, everything which means the putting in condition and its perfection.

In the period C-D the athlete will acquire control, which is the consciousness of his behavior in the action. It is, in other terms, the automatic action and his proportioning in strength, governed by the time. Thus a runner of rank must be capable of being able to judge almost to a second his pace on a race of 440 yards.

(Continued on page 57)

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# A Composite Offense

By Jack Gray

Basketball Coach, University of Texas

**A** YOUNG coach starting out in basketball, or an experienced coach moving into an unfamiliar situation, would do well to plan a *composite offense* rather than to stress only one way of putting his eggs through the basket.

At the University of Texas we use a composite offense right along. The memory is still too vivid of seeing our set offense stopped cold. We like the composite offense because (1) it provides us with a variety of scoring weapons, (2) it enables us to take proper advantage of our own personnel and (3) it enables us to vary our attack, game by game, in accordance with the talents and habits of the opposition.

Elements in a composite attack are: (1) Fast break. (2) Set plays. (3) Continuity. The last means some organized plan of attack to be employed when neither of the first two succeed.

In the application of our composite offense, the first thought is to "beat 'em back." The fast break, judiciously used, produces points and disrupts the other team's morale.

Our second thought is the set play. Then, if the opposition has both those weapons spiked, we use our continuity. The continuity may be a three-man, four-man or five-man roll and is any organized, regulated activity that will (1) keep the men properly deployed on the floor, (2) keep the ball moving and (3) give the players a chance to get loose on individual effort and ability.

With the elements of a composite offense at a team's command, the question becomes one of *stress*: Which element will we use most this season? In this particular game? At this particular stage of a game? Factors influencing the stress include: (1) Own personnel. (2) Opponent's personnel. (3) Opponent's offensive and defensive habits. (4) The tactical situation—score, time left to play, etc.

A team with speed, height, and good reserves is likely to favor a fast break. Speed alone doesn't make a good fast-break offense. You must have tall boys to get the ball—we call them "starters"—and they must be smart and experienced enough to recognize at a glance whether the opportunity for a fast break actually exists.

No matter what fireballs his starting players may be, the coach must remember that the fast break takes a great deal out of them. Here he must take into consideration the personnel of both teams. Does he have plenty of reserves? Does

the opposition have him outmanned? Did the scout report that opponents are slow getting back when they lose the ball? Unless circumstances and information clearly point otherwise, he will think of the fast break as an occasional rather than a full-time weapon.

A team with skillful dribblers, passers and ball-handlers, particularly one that does not have the manpower to run with the opponents, is likely to concentrate on a set-play offense. In the composite attack, however, the team should have some sort of set-play attack. The plays may be very simple. If the team is composed of big, rugged, not very nifty boys, the offense may consist of nothing more complicated than an attempt to get the ball in to one or two post men. The set-play element of the offense lends variety and keeps the players deployed tactically on the floor.

As we noted above, the continuity element becomes ultra-important when fast breaks and set plays are not working, but it may be the primary element in a particular game. For example, it should be introduced against a zone defense when set plays have to be thrown out the window.

The stress against a zone defense might be: (1) fast break, (2) continuity, (3) set shots from the outside.

Some excellent teams stress the continuity element right along. Wyoming is one that does so although its over-all offense must be termed composite.

Oklahoma A & M employs a composite offense stressing set plays. City College of New York is another fine team having a composite offense while also stressing the fast break.

Our game with C.C.N.Y. at Madison Square Garden last December offered a good example of composite offenses being adapted to a specific situation. Our team was fast but lacked reserves; C.C.N.Y. was faster and had good reserves, thus we decided it would be folly to try to run with the Beavers. Our boys had instructions to try to slow the game down and stress the ball-control elements, set plays and our particular type of roll.

The Longhorns did a magnificent job in the first half and built up a 32-20 lead. We were fast enough to handle C.C.N.Y.'s fast break.

After the intermission, however, Nat Holman's boys really opened up with their own style of continuity and stressed two-handed shooting from around the free-throw circle. They soon caught up with us and it was anybody's game from there

(Continued on page 50)



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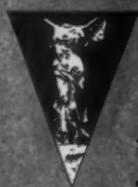


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## Speed-Up Baseball

By Louis C. Jorndt

Athletic Director, Amundsen High School, Chicago

THE following version of baseball is a fast and interesting variation of the game that will give the participants a real workout. Boys like this game because it has all the technics of regular softball with the added features of speed and quicker reactions. In regular softball many times a boy playing right field may only touch the ball once or twice and get up to bat about twice during a regular class period. Not so with speed-up baseball. In this version every player will not only get to play but will have to participate to such a degree that he will be sweating after one class period of play.

### Rules

Any number may play from 10 to 20 on a side.

Play regular softball rules with the following changes:

Every pitch is a strike.

Players must bat in order.

If a batter is not in the batter's box the pitcher may pitch the ball anyway and it is a strike. Sometimes a boy may have three strikes on him before he gets in position. After three outs the next team up to bat will have to run to be sure and get their bats.

Keep regular score, and equal number of innings.

In teaching this game I, as the instructor, often pitch for both sides but pick my catchers. Balls must be pitched over the plate within reason at all times. The game should be explained to the class before playing, then entered into with enthusiasm. It will not be long before the boys catch on, and then the game will be carried along by its own motivation. In the beginning the players should talk it up and have a lot of chatter.

If the instructor will pitch for the first two innings it will help the group to understand the game. It may be played either indoors or outdoors and at any time during the year.

This game was started during the war when all of our activities were speeded up in order to give all boys a better workout. Normal softball did not fill the bill but speed-up baseball did.

**LOUIS JORNDT** was graduated from the American College of Physical Education in 1929. He received his bachelors degree from Northwestern University in 1933 and his masters degree in 1935. He worked in the Y.M.C.A. park systems and has been at Amundsen High School for the past seventeen years.

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# Equipment Training for Future Coaches

By Kenneth L. Meyer

Asst. Football Coach, Indiana State Teachers College, Terre Haute, Indiana

**T**HIS survey was made in an effort to establish the need for a course entitled "The Purchase, Care and Repair of Athletic Equipment." There have been many of us that have known this need existed; however, in following the accepted procedure to obtain facts we have engineered a survey on the subject. It was suggested by the late Arthur L. Strum, Head of the Department of Physical Education at Indiana State. His successor, Dr. David Glascock, has carefully studied the survey returns and the course will be inaugurated as soon as the author's forthcoming text is published.

## High School Coaches Survey

To determine the actual need for such a course a simple question and answer form was sent to forty-two Indiana high school coaches. The coaches were picked at random from all-sized institutions. Sixty-nine per cent of the group returned the questionnaires.

To the question, "Did you have any such training prior to entering the coaching field and, if so, where and in what manner?" Eighty-six per cent of the coaches answered "No." Two answered, "Only incidental in other courses." Of the coaches answering, 57 per cent had their master degrees. Of this group, only one reported some such training on a graduate level. We feel safe in assuming that by the time a coach is able to pursue his M.A. he will have learned much about equipment through the costly trial-and-error method.

The next question was "If answering 'no' to the above question, have you, at any time felt the need of specialized preparation in problems pertaining to equipment?" To this, 78 per cent of the answering coaches said "Yes." Three of the mentors definitely said "No," and two failed to answer this question. This frank admission of 78 per cent of the coaches queried that they have felt the need of specialized instruction seems to be valid proof that the need for such instruction is present.

The third question, a follow-up to the above two, was, "Do you feel such a course would be of value to the future coach?" To this, 96 per cent of the answering coaches answered a definite "Yes," several with affirmative remarks.

The fourth and final question was, "What are some of the items you feel should be included to make the course as practical as possible?" The question was drawn up purposely as an essay type to prevent the simple checking off items. We wanted the coaches to put down the items they felt were important to them and had been their problems and, therefore, were practical issues to be prepared for prior to entering the coaching field. The answers we received were gratifying. Following is a partial listing of the items most repeated:

1. Selection of quality merchandise.
2. How to care for equipment.
3. What one can do about repairs.
4. How much equipment to buy.
5. What constitutes intelligent buying.
6. Proper storage methods.
7. Where to buy.
8. Selection and duties of student managers.
9. Budgeting.
10. Safety of equipment.

Over two dozen other problems were listed at least once. We feel this is additional proof that need for training in these items exist.

The above results are from coaches that are in the high school field today, the field that most of the embryonic coaches will enter. It was interesting to note that many of the coaches in larger schools returned as many problems as did the coaches in smaller schools. It was our opinion that since most of our graduates start in the smaller schools with limited budgets they need this training. As they reach the larger systems where larger budgets are available, they have the "know-how" from experience.

## Teacher College Survey

While we were determining the needs of the above group, we also felt it would be helpful if we had the opinions of those college administrators upon whose shoulders the responsibility for inaugurating such training would rest. Again we used the essay questionnaire and each return was indicative of some thought on the subject. Questionnaires were sent to the department heads of eighty-one teacher colleges over the nation. A return of 46 per cent was secured. Following is a list-

ing of the questions and a summary of each.

To the question, "Do you believe that the specialized course mentioned above should be a part of the undergraduate training of the coach?", 62 per cent of the answering administrators gave a definite affirmative vote. Eleven per cent recognized its need but made qualifying statements as to its place in the curriculum. The remaining 27 per cent gave negative replies. This indicates that, for the most part, the physical educators recognized the need of such specialized training.

The next question, a follow-up to the previous query, was, "If answering 'yes' to the above question, what time do you feel should be allotted to such a course?" Twenty-two department heads ventured answers on this question and their opinions ran from one quarter hour to four quarter hours or three semester hours. The majority, however, recommended two quarter hours. This is also the proposed length of the course to be installed at Indiana State. Two quarter hours constitutes a total of twenty-four hours instruction in most schools operating on a quarterly basis.

The third question was, "Do you offer such a course?" Eighty-one per cent of the answering schools gave a definite "No." Nine per cent did not answer the question and 10 per cent stated that the type of training referred to was included in another course. Realizing this would probably be the situation, the question, "Do you offer any training of that type in your preparation of coaches and, if so, in what manner?" was included. Forty-one per cent of the answering directors stated that they touched upon such training as a part of a nearly universal course entitled "Organization and Administration of Health and Physical Education." Nineteen per cent stated that no such training was offered. Fourteen per cent offered it in coaching courses. Eleven per cent combined it with incidental teaching in organization, activity, and coaching courses. The remaining 15 per cent failed to answer definitely whether instruction was given or not.

From these answers we feel it is safe to conclude that the majority of the training for the future equipment problems is left to incidental teaching.

The final and most important question was "Are you interested in the establishment of the specialized course at your school?" To this pointed query we received a surprising 52 per cent affirmative reply. If this may be considered a valid percentage, and we feel it is, the hopes for increased training in this phase of coaching are considerably buoyed.

Because of the absence of any organized equipment training facilities, we feel that many colleges offering courses in physical education will soon introduce such a program.

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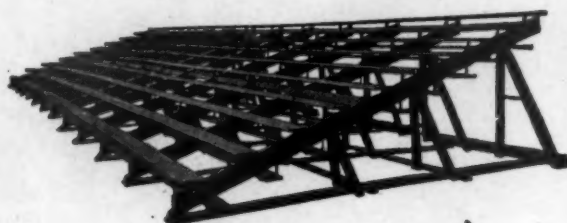
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## A Track Athletic Diet

By **M. E. "Bill" Easton**

University of Kansas  
Lawrence, Kansas

**D**IET to a good track man is the determining factor whether he runs up to his maximum capacity or below. Each individual has his food idiosyncrasies. What may be food for one is poison for another. What one person may like very much, another will dislike equally as much. These facts must always be considered, but fortunately the great variety of foods offered can satisfy even the most fastidious appetite.

The majority of men running distance eat entirely too much. A daily diet routine should consist of:

**Good Breakfast**—consisting of vegetable juice or two kinds of fruit, one citrus and another cooked or raw: cereal (during warm weather a dry cereal, and during cold weather a hot cooked cereal—cream of wheat or oatmeal): milk or a hot drink made from milk. This may be varied or supplemented by other foods such as eggs (boiled or poached) and whole wheat toast. Eggs should never be eaten prior to a hard race. They are composed of a sulphur base that forms gas and causes illness, especially in nervous stomachs.

**Light Lunch**—should consist of soup (tomato, vegetable, split pea): head lettuce salad: mashed or baked potatoes: whole wheat bread: and a glass of milk or a hot drink made from milk. Any green or yellow vegetable may supplement this diet.

**Good Dinner**—the chief items in this meal should be two or three vegetables (green beans, peas, carrots, etc.) in addition to the potatoes (mashed or baked), and the salad (green or fruit). The meat should be roast beef, beef kidney or liver. *No Pork* if any other type of meat is available. Dessert may be custard or sliced fruit (peaches, pineapple or pears in syrup).

**Pre-Meet Meal**—What is eaten immediately before the race (four or five hours prior) just relieves the hunger pangs. A diet of honey, mashed potatoes, dry toast buttered and hot, weak tea with plenty of sugar serves the purpose in excellent fashion. These in very moderate portions should be sufficient to carry through in good shape.

Several basic food elements (iron, calcium, phosphorus, vitamins) are necessary in a balanced athletic diet. Fats in particular should be eliminated in so far as it is possible.

*M. E. "Bill" Easton, one of the leading track coaches, has made quite a study of diet. This is the diet he prescribes for his squad.*



Iron is very important in athletic conditioning as a lack of this element will cause the boy to be short of wind and cause his heart to beat excessively through exercise. Any boy in athletics needs about 25 milligrams of iron daily and good roast beef, beef kidney, oysters, liver, spinach, whole wheat bread, eggs and fresh fruit will go far in supplying this demand.

Calcium is the base mineral for *endurance*. Neutralizing the waste product of muscular exercise is a definite necessity for good distance performance. An individual needs approximately one gram each day. Eggs, peas, raisins, grapes, rice and milk (1 quart each day) will give the athlete the necessary requirement.

Phosphorus is one of our finest minerals that resists the onset of fatigue. Each individual needs about one gram daily of this mineral used in the process of muscular contraction. It can be found in whole wheat, peas, oatmeal, lima beans and raisins.

Fried (greasy) foods and pastries are definitely *OUT*. Greasy gravy should be left off of food. It takes 11 per cent more digestive work energy to digest a diet of fats than a diet of carbohydrates. Too much fat increases the acidity of the blood and consequently lowers endurance.

Eating between meals is one of America's great habits. A good athlete in training will limit himself to eating *only* at meal time. He will not overeat and leave the table feeling "stuffed." His system then is accustomed to a well balanced diet at a regulated time and hence will function properly. Candy (without peanuts) may be eaten immediately following the evening meal, if the athlete has a "sweet tooth." Cake and pie in moderation will work in the diet except when the boy has a tendency to overdo the job. He should be particularly anxious to stay away from such food the latter part of the week and *never* eat to excess. If one must eat between meals or before going to bed, fruit (grapes, oranges or apples) is suggested.

Apples—an excellent fruit in the diet but they should never be eaten immediately before a workout or before a meet. They very frequently cause gas and intense stomach and intestinal pain to the runner. Follow this advice as it will save any possibility of this happening to you in either a hard workout or during a meet.

Honey, dates, grapes, or raisins should be placed in your diet for each meal if at all possible. Honey is a natural basic quick energy food. A tablespoonful of raisins and a few dates should be eaten at each meal. They contain a sugar (fructose) which is a splendid source of energy and are also basic, high in iron, and have laxative qualities. They will also help satisfy one's sweet tooth.

A quart of milk a day (four glasses)

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See review  
on page 56.

should be the minimum requirement. Eggs (boiled or poached) should be used *three times a week at breakfast only*. Two or three oranges a day are excellent as the citric acid is very essential in warding off colds. These, plus the fruits and vegetables, including the leafy or green vegetables, will assure a well-balanced diet containing an adequate amount of protective foods, namely protein, mineral salts and vitamins. During the winter months the use of vitamin capsules is highly desirable.

Meat should be used sparingly, certainly not more than once a day, this at the evening meal. Three times a week would be better. A number of runners who refrained from using meat altogether—by suggestion and not by coercion—showed a decided improvement and had more stamina and endurance. A quart of milk a day assured them of an adequate supply of high grade protein.

One of the most feared ailments of an athlete rounding in top condition is constipation (an improper elimination condition of the lower bowel). This difficulty can be prevented by proper eating and regular habits. Talk this matter over with your coach at the first sign of trouble or before, if you are susceptible to such difficulty.

*Simple Rules of Diet to Follow.* 1. Eat plain, simple foods that agree with you. 2. Eat only at meal times. 3. Never overeat.

GIVE THIS SUBJECT OF DIET REAL THOUGHT. KNOW YOURSELF. We have found this knowledge by each individual will pay dividends in performance to you personally and to the team in aggregate score in the win column.

**A Composite Offense**

(Continued from page 48)

on. We were lucky enough to salvage a 61-59 victory.

The point is: If Texas had tried to run with C.C.N.Y. we would have been badly beaten; if C.C.N.Y. had not been versatile and adaptable enough to turn to another defensive element when its favorite weapon was spiked, we would have had a much easier victory.

There are times, of course, when the score and time left in the game are governing factors. If a team is well behind with the time running out, or if it is leading and the opponents are covering all over the court, the tactics must be adapted to the situation. For example, we will fast-break more when the opponents are pressing us than when they are dropping back fast under our basket. That is an elementary observation that does not influence in the least our thought that, with a well-developed composite offense, we can come reasonably close to making the other fellow play our game.

## The Roll of Physical Education in Accident Prevention

By Hartley D. Price

Varsity Gymnastic Coach  
University of Illinois

THE National Safety Council predicted two years ago that peacetime America would suffer the greatest accident toll in its history. This gloomy forecast is rapidly being fulfilled in 1947. Automobiles were, and still are major causes of accidents accounting for approximately 50 per cent of them, despite efforts of safety engineers and other experts to enforce foolproof traffic laws and to minimize hazards.

Industrial accidents, too, take a heavy toll while accidents involving trains, planes, ships, fires, explosions, storms, and floods are on the increase.

Danger of accident is ever present everywhere; in the park, on the street, the sidewalk, on the playing field, in the gymnasium, in the swimming pool, on the beaches, in the home. In 1945 the toll of accidents in the home alone was 33,500; in occupation, 16,000.

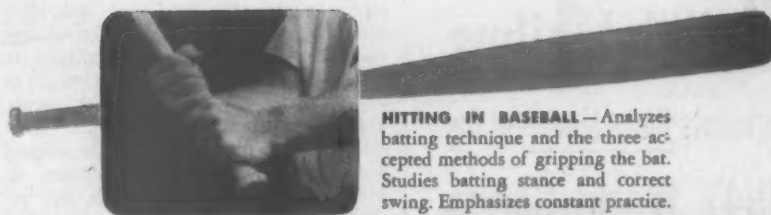
Falls cause a great percentage of accidents, such as falling from a ladder, or a chair; falling downstairs; or over objects; tripping over or skidding on a rug; falling from trees; slipping or falling on ice and elsewhere.

Now we know that much time, effort and money are expended on safety promotion regarding automobiles, industry, travel, floods, fires, etc., etc. *But what organization or association is trying to promote safety from falls that cause 30 per cent of all accidents?*

This responsibility must be accepted by physical education, by athletics, by safety programs in our schools, by parks, Y.M.C.A.'s and other similar organizations.

Physical education has become a necessity in modern education in view of the lack of big muscle activity in modern industrial life. An effective program of physical education is beneficial to the individual physically, mentally, emotionally, and socially. Physical education

**HARTLEY PRICE** is an impressive name in the field of gymnastic education. For over ten years his articles on all phases of tumbling and gymnastics have appeared in the *Athletic Journal*. During the war he was head of gymnastics and tumbling at the United States Navy pre-flight Schools at Iowa City and St. Mary's College, California.



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should equip the developing individual with the essential habits, skills, knowledge, attitudes, dispositions, and conditions to make adequate adjustment to himself, to objects and events, and to other people. Together with training in regular sport activities, it is imperative that the student become proficient in safety functions. It would appear then that it is the responsibility of physical education and athletics to see that these skills are acquired. In order to obtain the desired results, activities must be presented which are satisfying, interesting, stimulating, and worth while to the participant. It is admitted that indirect learning through appealing activities is more effective in acquiring desirable patterns of conduct. However, the obvious need for accident prevention makes a special effort in safety education necessary. The following statistics speak for themselves only too emphatically: Accidental deaths in the United States in 1945 totalled around 96,000, 28,600 of which involved motor vehicles; 15,500 public non-motor vehicles, 33,500 in the home, 16,000 occupational, and 7,000 military personnel fatalities.<sup>1</sup> In 1944 accidents ranked fourth as a cause of death. From all indications, they did not drop in 1945.

In addition to the 96,000 deaths in 1945, there were approximately 10,250,000 non-fatal but disabling accidental injuries.

Motor vehicle fatalities (28,600) were more numerous than any other type in 1945. Falls were almost as numerous, however, with a death total of 27,800.

During 1945, 33,500 persons were killed by accidents in their homes—3 per cent more than in 1944. Non-fatal injuries from home accidents totalled 5,000,000 including 130,000 which involved some permanent impairment. Falls, with a total of 16,900 deaths, accounted for more than half the home accidental death total. Each year confirms more strongly the fact that this large total is primarily due to lack of knowledge and skill in the prevention of falls and in the method of falling correctly.

These statistics make it evident that everyone, even those in ordinary walks of life, needs training and practice in the art of falling correctly. Those who are engaged in sport activities that may be considered potentially dangerous assuredly need to master skills which may be interpreted as safety skills. Physical education in general can and should meet the need of teaching safety skills. Perhaps gymnastics, and particularly tumbling under proper supervision, can teach safety skills better than any other sport. An inspired tumbling instructor can teach the art of falling without injury and can make his program interesting, stimulating, challenging, and extremely worth while. And, if a person knows how to fall by breaking the

fall, perhaps a large number of injuries may be prevented.

The Metropolitan Life Insurance Company has estimated that there are 200 people each year who meet with death by falling from ladders. The most prevalent reason for these falls is the loss of balance. Since one of the objectives of gymnastics is training in balance both upright and in the inverted position, its merits along such lines are obvious.

Strength with flexibility is another product of training in gymnastics.

The individual who has not had the opportunity to gain physical development and control of his bodily movements is really at a disadvantage when confronted with an emergency.



### Few Accidents in Physical Education Classes

In our physical education classes at the University of Illinois there are few accidents. A comprehensive study was made to determine injuries occurring in physical education classes from 1939 to 1944. Only 112 injuries were reported in service classes from September, 1939 to May, 1944. The total number participating in the program was 27,833.\* This low incidence is due to the fact that individuals are taught how to fall correctly, and how to maintain proper balance. In addition, they acquire strength and endurance as they participate in activities. In such potentially dangerous activities as gymnastics and tumbling, football, basketball, or wrestling, the individual learns how to prevent dangerous falls by using safety devices and learns how to fall without getting hurt. In gymnastics and tumbling, perhaps more is learned about the correct way of falling than in any other sport. If everybody had the opportunity to acquire these fundamentals of safety, a large percentage of accidents in the home and elsewhere would be prevented. Accidental death is almost 100 per cent unnecessary.

May I emphasize that, in my opinion, activities which provide the skill and knowledge to save both their own and other people's lives should not be discouraged or discarded because they are potentially dangerous. With proper supervision and teaching the potential danger may be eliminated. By mastering stunts which are considered "potentially dangerous" a fall may result in nothing more serious than a little bump. By learning to give with rather than to fight the fall, the individual may avoid fractures. By learning to roll with the fall instead of dropping like a dead weight he may avoid injury. Such safety rules become pronounced assets to the individual in particular and to society in general.

The answer, then, to the question, Should activities which are valuable for

<sup>1</sup> From *Accident Facts* published by National Safety Council, Inc., 1946, at 20 N. Wacker Drive, Chicago, Illinois.

\* R. H. Johnson, "Analyzing Athletic Accidents," *Safety Education*, March, 1946, 260, 261, 278.

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volved, here you will find them described in a clear, orderly sequence so that the beginning high school student, as well as the college athlete, can follow the discussion.

Based on the judgment of many teachers of track and field athletics, the material in the book has been rearranged so as to offer an improved sequence. A discussion of the straddle form has been added to the chapter on the running high jump. New topics have been included which deal with preparation for a track and field meet, track and field construction, and the responsibilities of the various officials.



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physical development be discarded because they are potentially dangerous? is definitely "No" for the following important reasons:

1. Individuals should learn how to control the body so that they may tend to do the right thing, the saving thing, as it were, in an emergency situation.

2. Individuals should learn to become orientated in upside down positions.

3. Learners should understand how to fall properly.

4. Individuals should acquire self-confidence to meet emergency situations.

5. An individual should develop a well-balanced physique in order that he may handle his body adequately. In this respect upper-body strength is equally important as leg development.

The foregoing reasons clearly point to the need of gymnastics in general and of tumbling in particular in every physical education program at schools, colleges, clubs, camps, and playgrounds.

#### **Pre-War Deficiencies in Physical Education Program**

The typical physical education program in this country before the war had two main deficiencies. First, there was a tendency to sugar-coat activities in a recreational philosophy that stressed fads rather

than sound physical, mental, and social training for the developing individual. With proper guidance there is no reason at all why recreation should not contribute toward: Self-disciplining by the individual, the attainment of sound habits of self-control, and the acquirement of an ideal of physical and mental fitness. Second, there was a lack of adequately trained gymnastic teachers; a deficiency due to the omission of gymnastic teacher's training in teacher's colleges.

Gymnastics and tumbling as an activity contributes very definitely toward this end. In the naval aviation training program during the recent war, gymnastics and tumbling were regarded as a main branch of training needed to obtain the desired finished product who could handle himself to advantage under any circumstances. This phase of the program was handicapped at first because of a dearth of competent gymnastic teachers. However, officers without previous gymnastic experience were trained in service and later did a commendable job.

The physical education program should include professional schools of physical education that train teachers who are capable of promoting the needed gymnastic work in elementary schools, junior high schools, high schools, and colleges. Gymnastics should be one of the out-

standing competitive sports in the country as it is enjoyable to the spectator as well as to the participant.

Under proper supervision gymnastics is not hazardous. Naval aviation statistics showed that swimming was the least hazardous, with gymnastics and tumbling next in order.

#### **The Well-Planned Program**

The well-planned physical education program should offer training in six types of activities, namely: 1. aquatic, 2. rhythmic, 3. team, 4. individual, 5. combative, 6. gymnastic and tumbling, if the program of physical education and athletics is to be properly balanced. In this way the developing individual is able to cope better with emergencies as they arise.

Swimming, too, is potentially dangerous if not supervised and taught properly. Everybody, however, should learn to swim and should understand swimming safety rules.

Football and basketball are potentially dangerous but proper conditioning and wise coaching will keep injuries at a minimum. Mastery of the art of tumbling enables the player to fall properly.

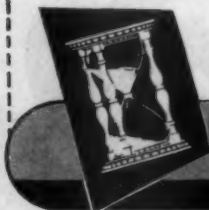
Many accidents that occur in boating and canoeing may be due to a poor sense of balance. Training in balance, then,



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would seem necessary if emergencies both in sport and in work are to be met effectively.

Gymnastics and tumbling must be included in all physical education programs if the individual is to develop properly in both the hang and support position. Too often upper-body development is neglected in our physical education and athletic programs where leg development is emphasized. The development of the muscles of the upper extremities is beneficial in contact games and in meeting the rigorous bumps received in life. Muscles cushion the effects received from severe bumps and jolts which might ordinarily result in breakage. Gymnastics has a definite carry-over effect to other activities for it develops strength with flexibility, agility, and the ability to correctly handle one's weight and balance. The work in the gymnasium should be constantly "spotted" or guarded.

Safety instruction need not be taught directly as safety education; it is preferred that it be acquired as concomitant learning. Eastwood indicates "Indirect safety instruction has proven to be more valuable than direct instruction in reducing the accident rate."<sup>1</sup>

Williams<sup>2</sup> indicates that too much direct emphasis on safety education might tend to develop a timid and safe generation. He further points out that "physical education must not only provide vigorous activities, but it must also promote courageous spirit and attitudes, or this American civilization will not be worth saving."

It must be recognized that physical education activities and athletics, at their best, contain many hazards, but that much of the beneficial training in these activities is the overcoming of such hazards both physically and emotionally. A program of safety is truly educative. Activities which teach the control of balance and how to fall properly belong in the school. It requires practice to overcome the dizzy feeling which follows sudden spins, turns and rolls. It requires practice to regain balance when it is lost. Fright and complete loss of body control are overcome and confidence is restored.

I wish to emphasize my firm belief that it is of paramount importance to include many potentially dangerous activities in the program because their values as future safeguards outweigh the hazards involved in learning them. Physical development is in itself a safety measure for the emergencies of everyday living. Everywhere in this whirling modern world there is potential danger. It is just as illogical to try to prevent people from crossing the street because it is a potentially dangerous undertaking as it is to eliminate sound physical education activities from the program because they are potentially dangerous.

<sup>1</sup> Eastwood, F. R., "Causes of College Sport Accidents," *Research Quarterly*, Oct., 1934, p. 68.  
<sup>2</sup> Williams, J. R., "The Inevitable Necessity," *School and Society*, May 4, 1940, p. 562.

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eighty of the country's leading high school and college coaches. The names of Clair Bee, Birney Crum, Floyd Dorland, Loren Ellis, Bud Foster, E. D. Jones, Leo F. Keefe, Dave MacMillan, Paul Marschalk, Nelson Nitchman, Adolph Rupp, Grady Skillern, Cliff Wells and Gilbert Wilson will strike a familiar note to readers of this publication, and will indicate the quality of those who have lent their assistance in making this one of the truly great basketball books.

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## Relay Racing

(Continued from page 10)

arm to the rear. The palm is down. The passer, with the baton in the left hand, swings the baton upward into the outstretched palm.

4. The receiver extends the right arm back and slightly to the right, four or five inches above the plane of the hips. The palm is up, the thumb is pointed toward the rear, and the elbow is down. The passer, having the baton in the left hand,

swings it downward onto the outstretched palm.

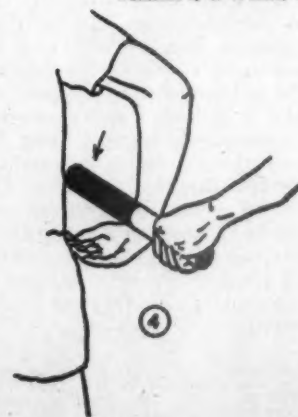
### Comparison of Arm-Hand Positions

Coaches of the last three Olympic 400-meter sprint relay teams have advocated the use of the first described form—elbow looped, finger tips on hip. The advantage claimed was that the open fingers resting on the hip provided a less oscillating "target" than other plans. A contrary group points out that if an extended right arm were used by the receiver, "free distance" of a yard and a half would be added.

The second method cited, swinging the baton downward onto the outstretched

Four arm and hand positions used in passing the baton

Credit: "Track and Field Athletics"  
Hromaden and Teille  
Published by C. V. Mosby Co.



right hand with the palm up, is used by those who like to gain all "free distance" possible by a full extension of the arm by both the receiver and the passer. A further advantage claimed is that the open palm is below the baton and is in a position to retrieve a partially bobbled pass.

The third method mentioned, swinging the baton upward into the outstretched right hand with the palm down, is used by those who believe the upward swing of the baton by the passer to be the most effective. Similar to method two, this permits a long reach by both the receiver and the passer. A disadvantage is that the baton is below the open palm and falls to the ground in case of a bobbled pass.

In contrast to the divergent views on the arm-hand position, there is agreement among coaches on the responsibility of the exchange and the speed at which it occurs. Both the receiver and the passer have definite tasks to fulfill and are held responsible for their execution. In the sprint relay pass there is but one rate of speed at the point of the exchange—top speed for both the passer and the receiver.

## Training for Track

(Continued from page 41)

It is this faculty of sports intelligence which permits the champion to regulate his effort so as to achieve the best result.

It is interesting to know that every test has its curve of effort well defined as to pace and the necessary proportioning for the maximum result. Tables for each test have been set up and it is good to know them. In order to train himself well, a champion cannot dispense with them. The watch is an aid but at the time of competition the champion must be his own stop watch.

In this school the athlete rapidly becomes the master of his means. It remains for him to perfect a quality more or less inborn and of a nervous order. It is a fundamental error to begin to exercise too early. Not only will one be unable to put speed to good profit before having a good style, but one risks, by too rapid tensions on some badly prepared muscles, some efforts going beyond their elasticity and causing grievous tensions of the joints.

Speed must be the goal of training. In exercising it one must also proceed with progression. Here again a record performance sought too quickly must lead to defeat. If the work is well done from the beginning, and if it includes style, pace, and technique, progress will become more and more rapid.

When in full possession of all his physical means (what I call "sports intelligence"), the athlete feels confident and sure of himself. He is aware of his possibilities, possibilities which neither cold nor heat nor any other exterior circum-

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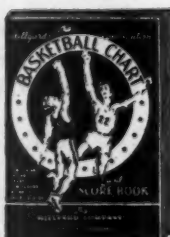
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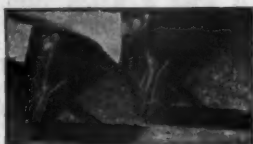
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stance will scarcely cause to vary, because the game of interior regulations of equilibrium and defense is so well planned.

Finally, in order to attain and retain the condition of forms which the part (inflected beyond D) at the top of the course represents, it is still necessary to improve the perfection of details, of tactical management, of more precise attention to hygiene, diet, massage, quality and quantity of rest.

Progress is more difficult for each one when he reaches his best effort, but who has ever pretended that he would not be able to do better? No one ever knows his own limits for no one can claim to have progressed without errors and to have extended his training to the maximum.

This palpitating period also demands more discipline and more renouncing.

For the athlete formally, it represents the period of competitions. At the time of the Olympic Games, for example, it is a question of reaching the top neither too early nor too late. It is necessary to maintain one's position long enough, which requires more will power than for making the ascension.

The athletes of the Olympics have interested numerous physiologists, especially since the last games in Berlin. At the stadium and in the Olympic Village some complete laboratories were installed. The competitors in the different sports were examined there. They tried to proportion the degree of their training and to observe their condition before, during, and after the exertion. The observations are multiple and interesting. Here is a resumé which I take in part from *Biology* by Lefevre.

"The human machine can, through training, recover in proportion to the amount of work it does. Reserves are regenerated, heat and excretions eliminated by a blood irrigation sometimes fivefold and upwards (according to Chauveau and Kaufmann) by a considerable increase of the pulmonary ventilation and also of the renal excretion. Thus in the period where great performances are possible, such a balance, so much the more powerful as one gets started, remains normal and perfect. There is a rapid recruiting of muscle as a combustible and as a carbide and this recruiting is always assured. There is automatic neutralization of toxins which washes and maintains the tissue by isotonic destruction of the heat of the work, and thermo settlement of this work at a favorable isothermal temperature."

This total physiological expansion, which the full possession of the sports form represents, ought not to be reserved only for the athletes of the Olympic games. There are many who would be able to attain it and who ought to do so.

It must be remembered that in the course of training not only the lungs, muscles, and nerves but also the mind must aid in the contribution. Even among

athletes of good form certain ones are unable to reach an enviable destination without being constantly advised and directed. This is the role of the coach and the trainer. It is necessary, then, to counsel and encourage continually. Confidence is a virtue which one must inculcate in the athlete as those who possess it *by themselves* are very rare. One is also able to do much to increase the courage of the athlete, to stimulate his combative spirit; in a word, to train his sports' mind.

This is expressed well in the slogan chosen by Father Didon for his students of Arcueil, gathered in sports association. This slogan by chance finds itself again in our curve. "Here," he said to them on the day of their first gathering, "here is your password: Always stronger, always faster, always higher."

## Track Notes for the High School Coach

(Continued from page 26)

bination produce a good vault, and the actual season's work is used to put the parts together carefully to gain the most efficiency from the muscle action. Anyone can make up exercises if he keeps the following principle in mind: to exercise a group of muscles for tonus or warm-up activities no apparatus need be at hand; but to develop muscles an added resistance must be incorporated in the exercise. The most versatile type of apparatus are the chest or wall weights. They may be adjusted as to resistance and be used for an all-around development. Bar, ring and rope exercises may also be used for the development of the back and shoulder groups of muscles so necessary to pole vaulting.

## From Here and There

(Continued from page 4)

has 203 points; the East and South each have 137 points; the Southwest and West have 70 and 68 points respectively. The East made their best showing in 1937 with Pittsburgh, Fordham, Villanova and Dartmouth garnering 26 points for their section. The South got 20 points in 1942 through Georgia, Georgia Tech, Tennessee and Alabama. This past season was the best for the Southwest with S. M. U., and Texas gathering 14 points. The Middle West made its best showing in '41 when the Minnesota, Notre Dame, Michigan and Missouri power houses totaled 28 points. The West Coast's best year was 1939 with U. S. C. and their cross town rivals U. C. L. A., gathering ten points.

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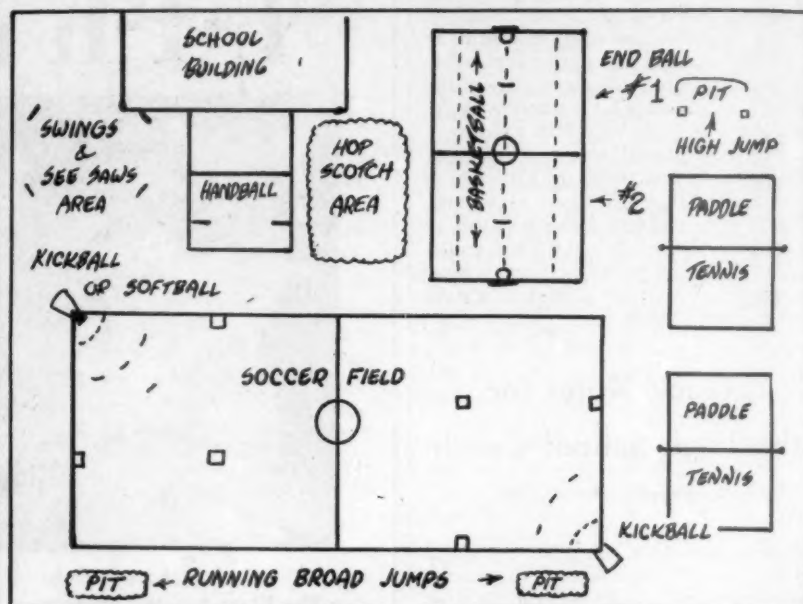
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## Build Your Future Athletes By Maps On Your Grade School Playgrounds

(Continued from page 20)



the courts are marked. The basketball court may also become two endball courts, a softball diamond or a kickball diamond. Endball is a good lead-up game to basketball because it teaches dribbling, passing and shooting tactics. Kickball is a lead-up game to baseball. Little tots learn to run the bases, make put-outs, catch fly balls and develop other baseball skills by playing this game. They can start off by learning to play the so-called "stationary type game" in which the soccer ball is placed on home base by the catcher and the kicker starts the play by kicking the ball and running toward first base. The safety of the players may be assured by placing restraining marks on the court (see diagram) that keep the infielders from approaching too close as the kick is made. Another arc may indicate the distance that the ball must go to be a legal kick. The kicker's area also may allow only two short steps in kicking. Allowing the infielders to throw the ball to the base for a put-out or to hit the runners has been a good procedure. Limiting the baserunners to one base unless the ball goes beyond the infield has also proven a good rule. Allow an extra base if there is an over-throw or if the ball misses the runner when thrown at him as he runs to a base. Other than these the regular baseball rules may apply and will develop baseball-minded youth who know when and when not to run on a caught fly and other baseball skills.

As the youngsters become more skillful, rolling the ball to the kicker makes the game more like baseball. Kicking a

rolling ball requires considerable skill, especially if it must be a fair ball. Two foul balls in the stationary type of game and three in the rolling-ball type of game making an "out" has proven a good regulation. A rolling ball crossing the plate without being kicked makes a strike or one of the three fouls allowed. A bouncing ball need not be kicked if it crosses the plate.

Miniature soccer areas make possible the learning of that game and it is a great conditioner. The diagrams shown here indicate the multiple use of various areas; the soccer area allows for basketball across one-half of the area and softball or kickball in the other half or two games of the latter on the full court.

Further dividends will be realized from marking your playgrounds by mimeographing outlines of the courts you have mapped on the play area and using them as a daily assignment of the areas during the recess or physical education period. For example, if the girls are to be with the instructor of physical education one day, the boys' teams may be scheduled to use the other courts simply by writing in the team number and grade on the court to be used, such as "Room 2, Boys, Team 4 vs. Room 3, Team 2."

High-jump and running broad-jump pits, properly placed in areas on the grounds, will also lead to experienced athletes. In closing I repeat that by marking maps on the grounds, the future athletes are directed in their activities and become trained material for the future varsities in any school system.



## The Swing's The Thing

(Continued from page 16)

that its weight coming down helps increase the speed of the forward swing. The batter should guard against dropping his hands too far down in "cocking the wrists." This creates a dip in the backswing preparatory to swinging the bat forward. I can well recall a number of major league ball players who were not hitting well because they dipped the bat down too far and cut under the ball. This resulted in lifting high flies since they had to make too great an upward adjustment on the high strike. When this was pointed out to them and corrected they began hitting line drives again.

On the low pitch, as previously mentioned, the arms and body make the downward adjustment to bring the bat in as level a position as possible to meet the ball. The starting point, however, from which all adjustments start is high near the high-strike line. This takes care of the high, fast ball.

### *Copying Other Hitters' Styles Is Dangerous Unless the Particular Style Feels Completely Natural to You*

Copying other hitters' styles is dangerous unless a batter can pick out the "common denominators" or "good fundamentals" to which he is naturally adept. Too many adolescents are apt to copy styles of successful batters because these batters have popular "fan" appeal. It should be borne in mind that good hitters make the best use of their own physical and mental abilities (Illustration 7). They do not try to project their abilities into the styles of others. Good hitters adopt fundamentals that they see in others only when these fundamentals feel natural to them and help improve their hitting. Illustration 7 shows Joe DiMaggio's measurements and how they govern his batting stance.

It is foolish to think of all adolescent ball players copying Babe Ruth's style, Mel Ott's style, or Earl Averill's style of batting, yet all three were successful batters in the major leagues. Ruth held the bat down low and tried to lift the ball into the air so as to hit it into the bleachers. He had the weight, strength and remarkable body co-ordination to do this but he was one in a million who had this ability. He was in a class by himself.

Mel Ott waved the bat back and forth in a choppy motion in front of him and lifted his striding foot high as the pitcher started to throw. This was his own natural style even though it was a peculiar one, yet hardly a ball player will agree that this is a good style for young ball players to copy.



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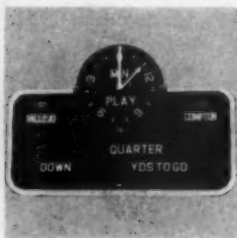
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# NEW ITEMS IN EQUIPMENT AND IDEAS



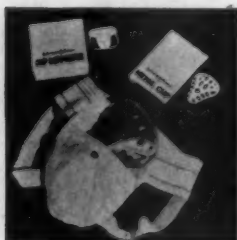
**B**ASEBALL players will have cause to rejoice over the new baseball shoe being made by the Brooks Shoe Manufacturing Company, 58th and Market Streets, Philadelphia 39, Pennsylvania. The shoe, developed by Michael Goldenberg, features a patented heel spike arch support made to reduce arch, foot and leg fatigue. Another special feature of the support is that it permits full flexibility of the soles. The shoe is designed with orthopedic correctness.

**A** NEW baseball glove which can be used by any player on the team except the catcher, is the latest innovation of the Rawlings Manufacturing Company, St. Louis 3, Missouri. The glove is called the "Playmaker" and features a seamless palm. As most gloves through wear begin to split at the seams in the pocket or somewhere else in the palm, this new feature lengthens the life of the glove. An adjustable thumb control device enables the player to adapt the glove pocket to suit his own style of play.



**A**N AID to the players, officials and spectators of a football game is the Bigtime Football clock manufactured by the Time-O-Matic Company, Danville, Illinois. By using whatever size dial face is necessary, the exact amount of time left to play is clearly shown to anyone in the stadium. The clock is operated by a pistol grip switch with buttons for starting, stopping, reversing and resetting the hands. The clock is also applicable to other sporting events, particularly basketball and hockey.

**C**OACHES and trainers will be especially interested in the new germicidal lamp developed by the Duro Test Corporation, North Bergen, New Jersey. This lamp will destroy airborne bacteria in as little as eight seconds and will go a long way towards eliminating the spreading of colds and bacterial diseases in locker rooms. The lamp has been used in food-processing plants, milk plants, bakeries, packaging plants and other places where germs, molds and fungus are a special problem.



**A** NEWLY designed athletic supporter, featuring a metal cup made of magnesium, is the latest innovation of Johnson & Johnson. Because of the magic qualities of magnesium the new supporter is one of the strongest and yet lightest ever made. The supporter has a V-front and a snap button pocket that permits easy removal of the cup. The supporter was developed by Johnson & Johnson technicians working in collaboration with numerous sports authorities and was thoroughly tested throughout last year.

**T**HE Bunny Knit Sportswear Company, Brooklyn 33, New York, has added a new Bunny Knit Yearite Pullover sweater (style #540) to their line of athletic sweaters. It is a form-fitting 3-ply baby shaker of 100% virgin wool. The bottom seams are taped to insure longer wear and the sweater is available with either the V or crew neck in sizes 34-46. The sweater is especially appropriate for school groups and for outfitting athletic teams and is available in various colors.



Earl Averill, on the other hand, hit with a stiff arm motion. When he first came to the major leagues many successful hitters shook their heads when they saw him hit. Yet Averill stayed in the majors for many years as a successful batter. This was his natural style and for him to copy other batters' styles might have resulted in complete failure.

Major league players are constantly watching good hitters to uncover techniques or fundamentals which will improve their own hitting. But to copy a completely new style is a dangerous practice which ruins more hitters than it helps.

Illustrations 8, 9, 10 and 11 show Phil Cavarretta demonstrating progressive action on the swing.

To aid good batting the following fundamentals should be observed: Only a few preliminary swings should be taken. The bat should be held still awaiting the pitch. The bat should be ready to start forward when the ball leaves the pitcher's hand. Start the swing high enough and do not drop the hitting end of the bat on the swing. Keep the shoulders level while swinging. The swing should be as parallel to the ground as possible and the batter should stand up fairly straight. The swing should not be too hard—a natural, easy swing is especially wise during spring training. Swing with a free arm movement and throw the bat into the ball. Put wrist action into the swing by gripping the bat more tightly as it is swung forward. Use the wrists to adjust the angle of the bat at impact.

## Preparation is the Thing When It's State Tournament Time

(Continued from page 32)

and before they could get back into the ball game, the Roughers were out in front by five points."

We had neither the height, rebound power, nor sufficient reserve strength to play a fast-breaking game. We felt, however, that against the type of defense our opponents ordinarily used we might change our tactics, get the jump on them, and then protect our lead and preserve our strength. We had gone into the tournament seriously weakened by a recent siege of "flu" and knew we would need all the rest possible if we were to fight off our opponents' final efforts. With a lead against a "basket-choking" defense we held the ball and took the rest we needed. When our opponents came after the ball we moved into our prearranged method of "freezing" and held on until the end of the game.

We took what appeared to be a chance. With proper preparation a coach may turn an apparent gamble into a well-planned strategy that may bring him a state championship.

# Free Throwing

By Paul Ward

Basketball Coach, Jennings High School, St. Louis, Mo.

"PUT those points in the score book!" Accurate free throwing wins basketball games: A practice procedure followed here at Jennings pays off in points. Most teams practice free throws, maybe fifty to a hundred and fifty a practice session, but the important element is sorrowfully neglected if the throws are a fill-in for a desired light "workout" the night before a game. I have observed a team that was instructed at the close of regular practice to "shoot fifty, then shower," with the coach either paying little or no attention to the humdrum, care-free throw attempts. Encouragement isn't enriched either if the coach leaves the gymnasium floor.

Boys penciling the number of successful throws made out of either 40, 50, 75, or a 100 attempts, do not often enough put them in the official score book on game night. It's a mistake for a coach to wait until his team has a poor 35 per cent free-throw game average to declare more free-throw practice.

We have no free-throw practice when the boys are completely fresh. Free throws are attempted in the game usually while the player is slightly or abnormally fatigued, at least not as fresh as if he just came from the dressing room. Free throws should also be practiced under game conditions as to number for seldom does a boy shoot more than two in succession without other forms of play activity. If he is awarded two free throws in a game he will likely move his body as well as his feet following the first attempt (too often in practice he may stand in one spot, only moving his arms to catch and throw the ball for ten in a row). In practice the players should move back, glance away from the basket and take a new "toe hold" each time for a "refreshed" confident toss. Following each short drill or unit of practice each player, while slightly winded, should shoot one or two throws at every basket (side or game) available in the gymnasium. We use a total of six baskets and six balls. The same ball remains at the basket where it started to prevent a boy from using a pet ball all the time. Each player shoots two free throws (stepping back after each attempt) then goes to the next basket, shoots two, and continues rotating around the gymnasium until he returns to his starting basket. We have no more than ten boys participating in this double shot, rotating method as we do not want any boy to wait too long and thereby approximate game conditions.

Following the next unit of practice, we have each man shoot only one shot at each basket. Not more than twelve nor less than six are shot at any one free-throw unit of practice. We never practice more than thirty-six or less than twenty-four in an afternoon of practice.

The boys say it helps them to take at least one (or more) deep, relaxing breaths before "toeing the mark" to shoot their practice or game shots. The two-hand, feet even, underhand free throw is used.

The only chart we keep is the game results where it shows we have one regular with an 84 per cent, two others over 62 per cent, and two others with a percentage over 55. We tell our boys to concentrate on making the free throw and not to worry about switching rapidly to defensive or offensive play. The rapid switch, of course, is the only sound thing but we do not want the switch "before" or just as the ball is about to leave his hand. This throws the shot off and, since a Kurland is not always available, we like our free-throw accuracy as well as our field goals.

Free throwing, like the discus throw or shot put, is an individual effort, therefore team play or morale is not injured when a player tries to out-percentage his "rivals" on the team.

## COACHES READY REFERENCE SERVICE COUPON

FEBRUARY, 1948

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